Analysis of the Sustainability of the Electrical Power Sector

Dominican Republic

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Submitted by

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THE AEAI TEAM

Advanced Engineering Associates International (AEAI) is a Washington, DC-based international energy consulting firm and a prime contractor to the US Agency for International Development (USAID) under its Global Energy Program. AEAI is comprised of economists, lawyers and engineers and dedicated to energy sector reform in developing and transitioning economies. This team was assembled by AEAI.

THOMAS P. GROSS, ESQ., Team Leader. Mr. Gross is a senior attorney, physicist and consultant with over 25 years experience in energy regulation and transactions. For more than a decade Mr. Gross has advised a number of governments on issues related to restructuring their energy sector for the purpose of attracting investment capital, including: advising the Government of Indonesia on drafting a new oil and gas law; advising the Government of Nepal on establishing a power development fund to co-finance power projects; advising the Government of India on restructuring the electric sector; advising the Government of Bulgaria on drafting a new energy law; advising the Government of Romania on restructuring the electric sector; and advising the former Soviet Union countries on power and energy issues. He has served as Deputy Assistant General Counsel at the Federal Energy Regulatory Commission (FERC) in Washington, DC where he worked on regulatory programs to restructure the energy sector in the United States, and worked in two large international law firms where he has advised clients on power regulation, energy project finances for natural gas pipelines, electric and hydro projects, and other energy projects. He has served as legal advisor to Standard & Poors on power projects, and is experienced in evaluating complex security packages for project-financed projects, including Power Purchase Agreements, Fuel Transportation and Supply Agreements, Operation & Maintenance Contracts, Construction Contracts, and other documents and financial issues related to energy projects.

CARLOS RUFIN, PH.D. Dr. Rufin has conducted research and advised multilateral lenders on the sustainability of reforms in the electricity sector in several Latin American countries. His forthcoming book examines the political economy of institutional reform in this sector, including a comparison of the reform experience in Argentina, Bolivia, Brazil and Chile. As a consultant with London Economics, a British economic consultancy, and previously with Stone & Webster, a major engineering and consulting organization in the energy industry, he has provided strategic analysis and planning related to the North American, European, and Latin American energy industries. In 1988, he assisted a major Chilean utility during its first tariff review after privatization. More recently, he worked on the valuation of generation assets in Panama, Nicaragua and Colombia as these assets were being privatized by governmental utilities, evaluated the reforms in Mexico's natural gas sector, and advised the Argentine electricity regulator on the first review of electricity distribution rates after privatization. For international lenders, Dr. Rufín has examined financial risks involved in lending to electricity distribution companies in Panama in the aftermath of their privatization. Other engagements have included valuation of electricity generation facilities, contract restructuring and re-negotiation, strategic advice to major industrial firms on electricity deregulation initiatives, and development of transmission pricing frameworks. Dr. Rufin is currently a professor of strategic management at Babson College. Earlier based in Barcelona, Spain, he held several financial management positions at Imperial Chemical Industries (ICI), the largest manufacturing firm in the United Kingdom and one of the world's largest chemical companies. As financial analyst and financial manager, took a leading role in the reorganization and integration in European-level structures of management accounting and information systems for the company's Spanish and Portuguese subsidiaries, and supervising financial accounting and treasury functions.

MARY LOUISE VITELLI, ESQ. Ms. Vitelli is an attorney who has lived and worked in Central America and Russia. For almost 15 years she has provided legal, regulatory and strategic planning advisory to governments and companies on electricity, oil and gas, coal and nuclear restructuring. She has also assisted and advised multilateral lenders on the sustainability of reforms in electricity and other energy sectors throughout the world. Her emphasis on corporate governance, legal and regulatory frameworks and institutional structures complements her work with governments to develop federal/regional law and policy; build institutional capacity to support large scale restructuring that has legal, economic (subsidy reallocation) and broad social ramifications (job creation, pension creation, relocation). Resident in Russia 1992-1997, Ms. Vitelli served as Project Manager for the more than $2 billion World Bank lending activity to restructure the Russian coal sector. Ms. Vitelli regularly serves on energy sector assessment teams and has co-authored a variety of reviews; she is also involved in the implementation of energy and law related technical assistance activities for the World Bank, USAID, European Union and United Nations. She is currently engaged in Armenia, Egypt, and Syria on energy efficiency projects with emphasis on the electricity sectors. Her work in Indonesia, Romania and Ukraine address sector governance and fiscal discipline. Her work in Brazil and Egypt targets the development of renewable energy sources including legal aspects of development for projects such as those using cogeneration. Ms. Vitelli formerly practiced corporate litigation in New York City and is a Board member of several international NGOs dedicated to improving energy use.

DAVID J. JHIRAD, PH.D. Formerly Deputy Assistant Secretary of Energy for International Energy Policy, Trade and Investment (1995-2000), Senior Advisor to the US Secretary of Energy (2000-2001) and Senior Energy Advisor at USAID, Dr. Jhirad is a physicist and Visiting Professor of Science, Technology and International Affairs at the Georgetown University School of Foreign Service. He conducts research and teaches graduate courses on global energy and electricity policy, markets, technology and risk assessment. He has more than 28 years experience in energy and power policy, regulatory reform, cross-border trade and investment in natural gas and power, and environmental issues in all the major countries of the world. He led the US bilateral energy policy dialogue with all major energy consuming and producing nations, and worked successfully with governments and the private sector to stimulate private investment in gas and power infrastructure. He has lived in the UK and India. He has co-authored a book on power technology scenarios for the United States, and more than 80 technical papers on energy and power technology and policy innovation. He has testified frequently before the US Congress and has led energy policy reviews of several major countries. As the US representative to the International Energy Agency and the Asia Pacific Economic Community (APEC) Energy Working Group, he guided work on oil security, gas and electricity restructuring, climate change analysis, and energy technology innovation.

ACRONYMS (*in alphabetical order*)

Acronym	English	Spanish	Reports To:
CDE *x*	National Power Company	Corporacion Dominicana de Electricidad	CDEEE
CDEEE *x*	Dominican Corporation of State Electric Companies	Corporacion Dominicana de Empresas Electricas Estatales	President
CNE*	National Energy Commission	Comision Nacional de Energia	President
CO*	Coordinating Body	Organismo Coordinador del Sistema Electrico Interconectado de la República Dominicana	
EGEHD *x*	Dominican Hydroelectric Generation Company	Empresa de Generacion Hidroelectrica Dominicana	CDEEE
ETED *x*	Dominican Transmission Company	Empresa de Transmision Electrica Dominicana	CDEEE
FONPER* (*formerly CREP*)**	Patrimonial Fund (Development Fund) (*formerly Reform Commission of Public Enterprise)*	Referred to as both (1) El Fondo Patrimonial de las Empresas Reformadas and (2) Fondo Patrimonial para el Desarrollo (*formerly Comision de Reforma de la Empresa Publica)*	President
MF* **	Ministry of Finance	Secretaria de Finance	President
PAEF**	Anti-Fraud Program	Programa Nacional de Apoyo a la Eliminacion del Fraude Electrico	National Police CNE SIE
PRA**	Blackout Reduction Program	Programa Nacional de Reduccion de Apagones	Social Cabinet CNE
PNER**	Rural Electrification Plan	Programa Nacional de Electrificacion Rural	CDE
PROTECOM*	Consumer Complaint Department	Oficina de Proteccion al Consumidor de Energia Electrica	SIE
MIT* **	Ministry of Industry and Trade	Secretaria de Industria y Comercio	President
SIE*	Superintendent of Electricity	Superintendencia de Electricidad	CNE
Social Cabinet* **	Social Cabinet	Cabinete Social	President

* *Permanent Institutions*
** *Institutions dedicated to targeted programs*
*** *Government bodies impacting sector reform*
x *State Companies*

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A. INTRODUCTION

Summary Findings

The state of electricity sector reform in Dominican Republic is impressive. In a relatively short period of time, since 1997, a substantial number of structural, financial and policy changes have been implemented for supporting market reform. During the first generation of reforms, Government has made definite legal commitments that address how the sector is organized and regulated, and how the private sector is involved. A number of aspects of the restructuring are very positive. All the major entities needed for a successful restructuring are in place, and the sector is in a transitional phase or its "second generation." That transition is being felt throughout the sector, and there appears to be a solid consensus by many top policy leaders to make the restructuring a success. Many positive steps are being taken to address the issues and there is strong momentum to make the reforms successful.

However, as Section 3 of the Report reflects, there are a number of major issues that Government needs to address to remedy sector flaws. Our findings show that an array of "growing pains" exist as to how the sector is currently operating and these issues are layered and, in certain areas, complex. Establishing more stable and predictable operations in the sector is not just a matter of reassigning business functions from the Government to the private sector, but requires the definition of legitimate business functions as part of reform. Now, as the second generation of reforms are implemented, the Government must address these "growing pains" in a timely and strategic manner in order to secure the reforms achieved to date.

Government needs to clearly state its reform objectives and complement those objectives with institutional capacity needed to support those objectives. Timing is important. If institutional capacity is not timely and sufficiently upgraded to guide reforms, then management of the sector will become (and already has shown signs of becoming) reactive as opposed to being predictable. Reactive sector management results in neglecting other aspects of the sector each time a particular crisis emerges. Furthermore, the financial viability of the sector, especially at the distribution level, is critical to the long-term sustainability of the reforms and must be addressed in a timely manner.

The sector continues to be plagued by serious problems, such as the Cogentrix plant remaining off-line since October 2002 due to a dispute with the Government, high prices for electricity but low quality of service, controversy regarding Union Fenosa and its performance under its management contract, heated debate about the success of the reforms, some advocacy for re-institutionalizing the sector under Government control,

demonstrations by the public before the Congress and elsewhere about the poor quality of service, and other problems. Some of these problems have reached such a level of concern that donor agencies may withhold further financial assistance until a clear resolution is in sight and it is evident that the availability of financial assistance will result in significant long-term sustainability of the sector. Private investors remain uncertain as to whether their confidence in this market will be restored. The international investment community is unlikely to view investment in the Dominican Republic favorably while these issues are pending resolution.

The Team and Mission[1]

In late 2002, the Government requested assistance from the US Agency for International Development (USAID) in evaluating threats to sustaining its reform efforts with the purpose of proposing strategies or specific actions that will assure the long-term success of the reforms. The team, consisting of two lawyers, an engineer and a political scientist was assembled to conduct this assessment of the sector. The assessment was conducted between October 2002 and January 2003.

Our Mission was to complete an objective, qualitative analysis of the sector to identify those aspects of the sector that are functioning reasonably well, to identify those aspects of the sector that are failing to function well, either because of the way the sector is structured or for other reasons, and to make recommendations on how to improve the operation of the sector in order to maintain the sustainability of the reforms. The examination is expected to provide some insight, among other things, into whether the architectural design of the sector should be modified, whether the governance mechanisms are satisfactory, whether appropriate checks and balances exist and other related issues.

The Report[2]

The findings presented in this Report are based on (i) previous reports and studies prepared by sector entities, donor agencies, and the companies, (ii) semi-structured interviews conducted in-country with key persons and entities in the sector, and (iii) data and other information provided to us by various public and private entities, including those that operate within the sector. Over a period of approximately four months, two in-country visits were conducted. The team met with numerous organizations and companies that operate in the sector, including, among others, the National Energy Commission (CNE), the Superintendency (SIE), the Coordinating Organism (CO), the two capitalized generation companies (Haina and Itabo), CDEEE (the state-owned holding company for the transmission and hydroelectric facilities), the three distribution

[1] Simone Lawaetz, Program Analyst in USAID (EGAT Bureau/Office of Energy) facilitated this activity and traveled with the team, attended team meetings and assisted the Team in its analysis of the issues. Firras Traish of AEAI, provided research, coordination of team activities and compilation of the final report.

[2] A Spanish version of the final report will be prepared. Spanish terms used herein are intended only to clarify and provide continuity with those familiar with the sector.

companies (EdeNorte, Edeste, and EdeSur), the Dispatch Center, the World Bank, the InterAmerican Development Bank, and other organizations.

Although this Report is designed to be more qualitative than quantitative, we also requested data from some of the companies about their organizations, in order to gain a general sense about the companies' operations, staffing, organization and collections.[3] Our Report is not intended to resolve every issue that is raised, due to limited time and resources, but it may lead to subsequent, more detailed assessments on targeted topics and issues that were uncovered during our review. Technical and social impact issues were not thoroughly addressed, but the World Bank is expected to conduct in 2003 an in-depth social impact assessment that should complement these findings.

We have separated our findings into three Report sections: Section 1 presents an updated review of the sector; Section 2 presents our analysis of the institutions, market operation and financing of the sector; and Section 3 presents our team recommendations as they relate to key findings in Section 2. The recommendations in this Report, although critical at times, are intended to be helpful to all sector players. We hope the recommendations will be reviewed and evaluated by all sector players, and appropriate steps take to implement the recommendations, after careful review of their relevance and applicability.

B. FACTUAL FINDINGS AND KEY THREATS TO SUSTAINABILITY OF THE REFORM EFFORT

Based on our review, we have made a number of factual findings, identified certain threats to the sustainability of the reform efforts, and formulated a number of recommendations in order to overcome those threats. A summary of our key findings is set forth below; more detail and additional findings are provided in Section 2.

1. Structural and Organizational Issues

The basic organization of the sector is sound and includes the key institutions that we expect to see in contemporary restructured markets. We find that the sector is supported by permanent institutions as well as temporary, programmatic institutions intended to address targeted issues for a limited period of time. The main permanent institutions include:

[3] We note that any information that was given to us by the companies and other organizations was done so voluntarily and that we have no subpoena power or other powers, such as requiring statements under oath, normally associated with formal investigations. Nor is it the purpose of this project to conduct a formal investigation of that nature. We note that other Governmental organizations, such as the Superintendency, are authorized and more fully staffed to conduct such investigations. Therefore, although we deem the information given to us as reliable, we cannot determine with certainty the veracity of that information or whether there were substantial omissions of relevant information.

- The National Energy Commission (CNE) which serves as a policy and planning entity that is part of the Executive Branch and reports to the President;
- The Superintendency (SIE) which is an independent regulatory organization composed of several commissioners appointed by the President for fixed terms that oversees the operation of the sector, assures consumer protection and has enforcement powers
- A spot market that is based on bidding and merit order ranking that is operated by a pool or private organization—in this case, the Coordinating Organism (CO)--that establishes rules and payment/collection procedures for those who participate in the spot market;
- A Dispatch Center that dispatches power based on ranked bids and long term contracts;
- Other Governmental organizations and Ministries such as the Ministry of Finance, etc., that advise the Office of the President on policy issues, rural electrification and energy efficiency. This includes the Presidential Commission for the Sustainability of Electricity Reform which is an advisory body comprised of five senior advisors including the Minister of Finance, Superintendent and Executive Director of CNE.

The primary temporary programmatic institutions include the Anti-Fraud Unit (PAEF) and the Blackout Reduction Program (PRA) which are assessed in detail in Section 2.

Institutional Flaws

Although all the basic architectural elements of the sector are in place, the sector is not operating as it should. There are several reasons for its limited success.

In some cases, this is due to "growing pains" as the sector players learn their respective roles and how the roles relate to the other sector players. Questions seemed to emerge from the sector players about these roles and the jurisdictional limits of these entities. For example, some sector players may not fully understand the role of the Superintendency vs. the role of CNE or they may not understand the role of the Superintendency vs. the Coordinating Organism. Although the basic concept of these entities seems to be clearly understood, e.g., SIE is the regulator, there is some confusion when actual issues are presented, e.g., who has authority to audit variable costs (SIE vs. CO), who should address certain technical requirements in the sector (SIE vs. CO), etc.

Similarly, the entities themselves are learning the limits of their own jurisdiction, and this learning process can result in some confusion among themselves and the sector players. For example, the Superintendency and CNE, or the Superintendency and the Coordinating Organism are in the process of exploring their jurisdictional limits and are learning how to relate to each other. Notably with regard to CNE and SIE, there are

certain legal provisions, described in Section 2, that define jurisdictional limits that we find to be inappropriate.

The concept of independence of the Superintendency is one of the most critical issues in sector reform. We suspect that this concept of independence is not clearly understood by all sector players. Although SIE is independent, that independence does not preclude, for example, the Superintendent from being a team player with other Government agencies, e.g., sharing general policy views and discussions about sector issues, discussing probable initiatives that SIE or other sectors could undertake, etc. The concept of independence emerges when SIE has a matter pending before it and must make a decision about that matter, e.g., after SIE initiates a rulemaking proceeding, initiates an investigation or receives an application. *SIE must be careful to prevent--and the public and other Governmental agencies should not seek to engage in--any ex parte*[4] *communications on any matter pending before the Superintendency.*

In addition, a general lack of information for market players and customers creates ambiguity in understanding the exact roles and limits for sector institutions. Furthermore, Government's participation in the sector remains significant – as policy-maker, shareholder, enforcer, market participant, provider of subsidies and consumer--and these roles, which often have conflicting objectives, create confusion when Government speaks or acts.

In other cases, some sector players simply are using old, accustomed methods known to achieve results, and hence they bypass the new, legally established procedures. For example, we heard a number of anecdotal stories about the independence of the Superintendency and how some sector players bypass the formal appeal process and seek results at higher political levels, such as the Office of the Presidency. We also heard stories about how some political entities, including the Office of the Presidency may attempt to influence the decision-making process of the Superintendency on matters pending for decision or on matters which have already been decided. The fact that this view exists, *whether such conduct is actual or only perceived*, tends to exaggerate the problem, meaning that if sector players believe that *others* are successfully doing it, there is no reason why *they* also should not do it. The Rules of Procedure for SIE and CNE do not seem clearly defined or well understood by the sector. Improving the transparency of these procedures and educating the sector about these Rules should help in promoting their use.

In some cases, there are problems with the actual jurisdiction and allocation of functions in the architectural structure of the sector, as well as the manner in which the entities are implementing their jurisdiction, that may inhibit the proper functioning of each of those entities. For example, the Coordinating Organism has not yet issued bylaws, or more specifically, the terms of agreement that the members agree to when they

[4] An "*ex parte* communication" is a communication (orally or otherwise) made by someone other than an SIE employee to an SIE employee, such as a commissioner or office director, outside the designated legal process, about a matter that is pending before SIE, which may influence, or may have the *appearance of influencing*, SIE's decision on that matter.

join the CO. Failure to have clear terms and conditions for membership and market operation can adversely affect performance of this important entity. These problem areas are explored in greater depth in Section 2.

The purpose and role of the Presidential Commission for the Sustainability of Electricity Reform, which serves as an advisory council to the President, needs to be clarified. Although similar advisory groups are used worldwide, the composition of these groups is generally more independent and does not include institutional directors. In this instance we caution that this Commission may become more than an advisory body for the President and may begin to supercede the roles intended for CNE, SIE and possibly other institutions. This evolution of the Commission would be detrimental to the institutional structure required for the sector to operate in a transparent and predictable manner.

Regarding the two temporary programs—the Anti-Fraud Unit (PAEF) and the Blackout Reduction Program (PRA)—we find that these programs are useful and creative transitional programs, but that, in their present form, they should not become part of the permanent institutional setting in which the sector operates.

2. Market Operation

Problems continue to plague the operation of the market, despite a general consensus that the CO is performing well and is responsible for many of the successes in the market. Some of our findings about market operation that threaten the sustainability of the reforms include:

- *Distribution companies engage in load shedding* of non-paying neighborhoods in order to reduce low collection rates;

- *Generation companies take their station off line*, even if ranked for dispatch, because of the fear of non-payment, and it is unlikely such conduct is an effort to manipulate spot prices;

- *Private sector participation in transmission and hydroelectric facilities is severely limited* due to legal requirements that the Government own all transmission and hydro facilities;

- There are conflicting views, primarily between the Government and the companies and the donor agencies, *whether the transmission system is capable of handling full dispatch of all generation*;

- *Technical losses for the transmission company are high* for a system of this magnitude and needs to be reduced through investment and upgrades;

- *Transmission constraints exist primarily between the north/south corridor*, which become apparent when northern generation units are off line;

- *There are complaints that the transmission system cannot properly deliver power to the distribution systems at the city gates* and that technical upgrades are needed to improve delivery capability;

- *The jurisdiction of the Coordinating Organism vs. the Superintendency is unclear* on some matters, and in some cases, neither has shown a desire to address sector problems.

- *High toll surcharges, pursuant to SIE Resolution No. 15-2001 discourage customers from switching energy suppliers*, even though entitled to do so under the July 2001 Law.

- *Tax benefits are encouraging the installation of small generation units of less than 4MW (distributed energy), but some generation units may be reselling and distributing the power without a concession from SIE.*

3. Collections and Financial Viability of the Companies

The financial viability of the companies is critical to the long term sustainability of the reforms, i.e., companies need to make money or they will leave, either voluntarily or involuntarily. The following summarizes some key findings on this issue.

- *Improving collections at the distribution level continue to be a high priority*; cash flow to the transmission company and the generation companies starts at this collection point which is the "cash register" for the system.

- *The distribution companies seem to have taken aggressive measures to collect from non-paying customers who are capable of paying*, but further measures may not be effective unless there are Government prosecutions or other steps to deter theft, meter tampering and other fraudulent conduct.

- *Government payment for services should be improved*.

- *The general public is dissatisfied with the distribution companies, and does not trust the meters or the billing process*. Spot checks by Protecom as a result of customer complaints have found a number of meters inaccurate by as much as 30 percent (in favor of the distribution company) and billing cycles often extend more than 30 days, e.g., 34 or 36 days.

- *Non-technical losses remain high*, despite the willingness of upper and middle class individuals to pay for electricity if the quality of service is improved. Continued intermittent blackouts, whether due to load shedding, insufficient generation due to generators being taken off line, or other technical malfunctions, continue to fuel the culture of non-payment.

- *Distribution companies are experiencing high technical losses.*

Other factual findings and threats to sustainability are set forth in Section 2 of this Report.

C. RECOMMENDED STRATEGIES TO OVERCOME THREATS TO SUSTAINABILITY OF REFORM

Section 3 of the Report sets forth in detail a number of steps and strategies for improving the sustainability of the reforms. However, based on the summary of issues set forth above, the following are some of the key recommendations for overcoming threats to sustainability.

1. Structural and Organizational Recommendations

Several factors are challenging the efforts to establish new and viable sector institutions: (i) slowly changing customer expectation of low-cost or free electricity, (ii) distribution companies seeking high rates of return, and (iii) a lack of publicized Government strategy to the "second generation" of sector reform. In addition, the institutions operate in a highly politicized environment while promoting new approaches to sector operation and oversight. These recommendations target institutional gaps in the immediate and medium-term of this stage of reform.

- *Publication and periodic updating of the Government's strategy for sector reform* including how it will address subsidized customers, private investment, and the overall institutional roles and responsibilities that provide for transparent and predictable "checks and balances" for how the sector functions.

- *The Office of the President needs to "step back" during this transition period* and allow the sector institutions, and customer and investor confidence in those institutions, to grow.

- *SIE must be recognized as a fully functioning independent regulatory agency*, and interference with the independence of the Superintendency should end. Sector players must learn to use the SIE processes and the appeal process for decisions that they do not agree with. Recourse to the Office of the President or other political agencies to change unpopular decisions must end, and *those agencies, and the Office of the President must stop being receptive to those appeals.*

- *The close relationship between CNE and SIE should be eliminated*, thereby strengthening SIE's independence and enforcing CNE's role as a policy and planning agency. These issues include CNE's tie-breaking authority over SIE decisions, CNE's authority to review SIE decisions, and CNE's superior rulemaking authority relative to SIE's authority to issue resolutions. SIE should derive rulemaking authority directly from the statute;

- *The capacity of CNE, SIE and other institutions should be strengthened* through development of organizational plans, published work plans and annual reporting systems. SIE will benefit from more detailed job descriptions, staff training, improved technology as needed to gather sector data, including a computerized docket and numbering system for tracking cases and pleadings.

- *Both CNE and SIE should issue Rules of Procedures* for rulemaking and other decision-making processes to ensure full transparency and due process considerations. These procedures should encourage more public participation in SIE's decision-making process, in some cases, through participation of groups and coalitions, e.g., consumer, industrial, commercial, and agricultural advocacy groups.

- *The CO should finalize its legal, financial and governance rules, including the calculation of member dues*, so that all sector players understand the terms and conditions under which the market is operating.

- *The structure of the Board for the CO should be revised by giving greater representation to the private sector*, possibly based on the following groups with one vote per group: all generation (including EGEHID); transmission (only ETED at this time); distribution; large users; a fifth group (possibly regulated consumers).

- Public information about the role of, status of and *Government's intention for the Commission on the Sustainability of Electricity Reform should be clarified immediately*.

- The Anti-Fraud Unit (PAEF) seems to be fulfilling a useful function, but, in order to prevent this program from perpetuating itself, *the order establishing PAEF should have a "sunset" provision so that it will automatically terminate unless explicitly extended. The program should receive appropriate funds from the Government*, and any direct funding through the collection of fines or penalties should be terminated.

- Protecom is one of the more efficient and new institutions designed to handle consumer complaints. *Among other things, Protecom should establish more offices* throughout the Dominican Republic in order to provide consumers better access to this organization. Consideration should be given to amending the July 2001 Law so that Protecom is funded exclusively through the constitutional budget process and not directly through penalties that it assesses and collects

- *The Superintendent of SIE should not be allowed to serve as the President of the Coordinating Organism*; a lesser role, such as non-participatory attendance at CO meetings should be considered;

2. Market Operation

Some of the changes for improving market operation are listed above, such as having the CO issue by-laws for its members, and amending the July 2001 Law to allow better representation of the private sector on the Board of the CO. Other recommendations for improving market operation include the following.

- *The commercial information system required by the Reglamento should be installed* and the CO should conclude its studies, if it has not already done so, on installing a central data collection system. Installation of both these systems will ensure proper settlement of market transactions.

- *SIE Resolution No. 15-2001*, which imposes a heavy toll surcharge on consumers switching from their distribution company to other upstream sources of electricity, *should be rescinded* so that the market can be opened up and the provisions of the July 2001 Law allowing consumers to switch can be implemented;

- *SIE should increase its vigilance of the horizontal integration of the market*. Among other things, the Haina—Itabo merger should be carefully analyzed for antitrust considerations, and possibly be rejected, for its impact on the market and the consolidation of market power into one entity;

- *SIE should increase its vigilance of the vertical integration of the market*. Affiliate contracts should be carefully scrutinized to determine whether they contain "arms-length" bargaining terms, and if not, appropriate action should be taken.

- *SIE must evaluate the current level of transmission tolls and revenues collected by ETED relative to the long-term operation and expansion needs of the transmission system,* according to the parameters of the July 2001 Law and the Reglamento. Any shortfalls should be corrected through a gradual adjustment of tolls that allows for the efficient operation and expansion of the system in the coming years.

- *SIE should increase its vigilance of accounting practices by the distribution companies and consider implementing appropriate regulatory accounting standards* so as to improve transparency of the distribution companies.

- *Expansion of the transmission sector*, although initially suggested through studies conducted by CNE, *ultimately should be decided by the CO* so that members can discuss and come to agreement on transmission issues. Ultimately, CO decisions on transmission should be subject to review by SIE.

- *Efforts should be made to improve private participation in hydroelectric development and new transmission lines*. Build-Own-Transfer and other similar arrangements should be aggressively explored to allow private sector participation;

- *The CO should establish and publish a method for evaluating the economic value* of electricity from hydro generation so that that the hydro units and the private sector can better assess their market revenues.

- *The CO should enter into discussions with market participants to identify any current ambiguities in the calculation of ancillary services prices,* and CO procedures and public reporting should be amended as required to correct any such problems.

- *The SIE should determine whether some small generation units that receive tax incentives (4 MW or less) are reselling power and acting as distribution companies without a concession and take appropriate action.*

3. Collections and Financial Viability of the Companies

The financial viability of the distribution companies is critical to sustaining the sector reforms. Substantial efforts have been made to improve the financial condition of these companies, but additional steps can be taken.

- On the matter of collections, *Government must improve its payment for electricity, nothing short of 100 percent*. As a leader in the sector, the Government cannot continue to be a delinquent consumer.

- *The distribution companies should understand that they are service companies*. They should take further steps to improve customer relations through promotion campaigns and other good will programs, including improving customer understanding of payment options, and improving accuracy in metering and billing.

- *The 2.75 percent management fee that the distributions companies receive is confusing and needs to be clarified, e.g., applied to collections and not amounts billed.*

- *The Government should review its legal options under the management agreements to clarify the distribution companies' obligations to transfer technology, improve service and make investments in the system.*

- *The program that penalizes distribution companies for load shedding (July 2001 Law, Art. 93) needs to be coordinated with the PRA program* so that distribution companies are not penalized for participating in PRA.

4. Statutory Amendments

Consideration should be given to amending the July 2001 Law as follows:

- *The close relationship between CNE and SIE should be eliminated*, thereby strengthening SIE's independence and enforcing CNE's role as a policy and planning agency. These issues include CNE's tie-breaking authority over SIE decisions, CNE's authority to review SIE decisions, and CNE's superior rulemaking authority relative to SIE's authority to issue resolutions. SIE should derive rulemaking authority directly from the statute;

- *The Superintendent of SIE should not be allowed to serve as the President of the Coordinating Organism*; a lesser role, such as non-participatory attendance at CO meetings should be considered;

- *The structure of the Board for the Coordinating Organism should be revised by giving greater representation to the private sector*, possibly based on the following groups with one vote per group: all generation (including EGEHID); transmission (only ETED at this time); distribution; large users; a fifth group (possibly regulated consumers).

- *Private sector participation* should be allowed in the development, operation and ownership of hydroelectric facilities and transmission facilities.

1.0 INSTITUTIONS, INCENTIVES AND THE POLITICAL ECONOMY OF THE POWER SECTOR REFORM

Section 1.0 provides an overview of the electricity sector, its historical development, and the institutions and market as they existed at the time of this Report.

1.1 REFORM IN LATIN AMERICA

In many Latin American and Caribbean countries, the motivation for reform was clear and compelling. Electric power organizations experienced difficulties in attracting investment capital, had little incentive to expand service, and often did not deliver reliable and cost-effective services to consumers. The state-owned monopolies lacked incentives for efficiency, accumulated huge financial deficits, and functioned as political patronage machines for politicians and special interest groups. Government subsidies were poorly targeted and misallocated, and the expansion of service, especially to low-income groups was inadequate and inefficient. The poor financial performance of state-owned enterprises drained Government budgets of funds needed for urgent social investments, and contributed to a broader financial crisis in many nations.

The power sector reforms in the region were generally modeled on reforms implemented in Chile. Latin American countries and other countries transforming their economies, restructured the electric sector in order to relieve Governments from onerous financial burdens, to attract investment capital to the sector, and to ensure economic and financial efficiency while meeting social and environmental obligations. Competitive markets would provide incentives, and both domestic and foreign private capital would be used to rejuvenate the companies. The state would reduce its role, or completely withdraw, as owner and operator, and assume the role of an independent regulator that would balance the interests of investors and consumers. Expansion of the sector to low-income populations could be met by transparent public expenditures appropriated for that purpose.

Although significant reforms have taken place, many aspects of the reforms clash with the institutional and technological capacity of the region, posing threats to sustainability.

1.2 REFORM IN DOMINICAN REPUBLIC

In 1997, the Congress of Dominican Republic passed and the President signed significant legislation designed to initiate reforms in the electric utility sector.

Since 1955 and until that law was enacted, the electric utility sector consisted of centralized, Government-owned service, which was owned and controlled by the Dominican Corporation of Electricity (Corporacion Domincana de Electricidad -CDE). By the time the 1997 Law was enacted, the sector was plagued by significant problems and extreme inefficiencies. Among other things, the sector was experiencing a shortage of generation capacity compared to demand, and bottlenecks in the transmission system prevented delivery even when supply and demand otherwise could be balanced.

Blackouts in urban neighborhoods and regions of the country were common, and technical and non-technical losses for the distribution system were extremely high. Due to Government ownership of the sector, changing Government rules affecting the operation of the sector, and strong political influence in all aspects of the sector including tariffs that were set by political branches of the Government, the sector suffered from severe inefficiencies and failed to attract investment capital due to high risks. The generation sector relied heavily on oil as the fuel for generation, and changing oil prices caused significant fluctuations in operating costs. The Government provided substantial subsidies in the form of fuel subsidies and subsidies to end users, which resulted in increasing Government debt. The Government-owned entities had little or no incentive to improve the facilities, to improve collections or efficiency in operations, or to improve quality of service. In short, the sector was in a state of crisis and required a complete overhaul.

Enactment of the 1997 Law set into motion a series of events designed to address that crisis, which included, among other things, the subsequent enactment of additional legislation in July 2001. Commencing in 1997 and extending to the present, the Government has implemented a number of measures under those two laws to advance its reforms efforts. After enacting the 1997 Law, the Government separated CDE into distinct generation, transmission and distribution entities and subsequently capitalized the generation entities (except for hydro) into two separate generation companies and the distribution entities into three separate companies. Private companies obtained a substantial minority share in those companies, with the Government owning the other substantial minority share. A new state-owned entity, CDEEE, was created to hold the hydroelectric and transmission facilities and to retain control over the operation of those facilities. A new spot market was created for bidding and merit order ranking of those bids for dispatch. A new self-regulatory organization, the Coordinating Organism, was established to set the rules for that market and to coordinate its operation. The National Energy Commission (CNE) was created as the policy arm of the Executive Branch of Government to oversee the broad operation of the electric sector and to make recommendations about the sector, including planning and expansion of the sector. An independent regulatory agency, the Superintendency, was created and granted broad powers to enforce the regulations for the entire sector, including the spot market. In an effort to further restructure the operation of the market, existing long term Power Purchase Agreements that were under the administration and control of CDEEE were renegotiated and are in the process of being transferred from CDEEE to the distribution companies. Improvements were made in fuel diversification, including the introduction of liquefied natural gas (LNG) by early 2003. Fuel subsidies were eliminated and cross subsidies among customer classes were substantially reduced.

The following are some of the major milestones that have occurred since 1997:

- In 1997, the Public Enterprise Reform Act, Law No. 141-47 is enacted and provides a capitalization model for CDE.

- In 1998, CDE is restructured into eight new companies—three distribution companies (EDENORTE, EDESUR AND EDESTE), two thermal generation

companies (EGE-Itabo and EGE-Haina), and a hydroelectric and transmission company (EGEHID and ETED, respectively) held as subsidiaries of the newly created parent holding company, Corporacion Dominicana de Empresa Electrica Estatal (CDEEE).

- In 1998, the three distribution companies and two thermal generation companies are capitalized. The private sector and the Government become substantial minority shareholders in the companies, with neither entity holding a majority of shares. That capitalization resulted in the following ownership and structure in the sector:

Table 1
Capitalization of the Sector

Company	Activity	Investor
Itabo	Generation (thermal)	Gener (Chile) and Coastal (USA
Haina	Generation (thermal)	Seaboard and Enron (USA)
EdeNorte	Distribution	Union Fenosa (Spain)
EdeSur	Distribution	Union Fenosa (Spain
EdeEste	Distribution	AES (USA)
CDE	Transmission and Hydro Generation	100 percent Government Owned

- On March 18, 1998, the Superintendency of Electricity (SIE) is created by Decree as a division of the Ministry of Industry and Trade to promote, regulate and monitor the electric sector.

- On October 29, 1998, the Ministry of Industry and Trade promulgates Resolution No. 235 establishing a regulatory framework for the sector.

- On October 30, 1998, the Ministry of Industry and Trade issues Resolution No. 237-98 allowing distribution companies to transfer all cost increments to the tariff rate.

- In December 2000, the Ministry of Industry and Commerce issues Resolution SEIC No. 283-2000 which creates a fuel subsidy.

- Decree No. 744-01 is issued, allowing the Government to pay the debt, through February 28th, 2001, to IPPs with funds allocated to Fondo Patrimonial para el Desarrollo (FONPER), according to Law No. 141-97, the Law of Public Enterprise Reform.

- In July 2001, Law No. 125-01 (hereinafter the "July 2001 Law") is approved, which, among other things,

(1) mandates the separation of CDE into a holding company (CDEEE) consisting of a transmission company (ETED) and a hydroelectric company (EGEGID) as wholly-owned subsidiaries,
(2) formally creates the Office of the Superintendent of Electricity ("SIE" or the "Superintendency"),
(3) formally recognizes the Coordinating Organism (the "CO") to coordinate the activities of the wholesale market, and
(4) creates the National Energy Commission ("CNE") which, among other things, has the authority to issue regulations, anticipate and plan for the needs of the sector, gather information about the sector, and promote private participation.

- On July 18th, 2001, the Agreement of Santo Domingo-Washington-Madrid (the "Acuerdo Global") is signed, which, among other things, alleviates the Government's fuel subsidy to generators and leads to the transfer of certain IPP contracts from CDE to the distribution companies.

- On October 9, 2001, the Superintendency issues Resolution No. 15-2001, that establishes a toll, payable to the distribution company, by users who purchase electricity from sources other than their serving distribution company.

- On June 1, 2002, the spot market begins to operate under the supervision and rules of the Coordinating Organism.

- On July 19th, 2002, the President signs the Reglamento No. 555-02 which are regulations implementing the July 2001 Law, and further defining the roles of each entity and market operation. Modifications to the Reglamento, No. 749-02, are issued on September 19th, 2002.

- On September 17, 2002, the Superintendent issues Resolution No. 31-2002 that modifies and increases the tariff structure, among other things, and substantially reduces cross-subsidies.

- In September 2002, the President addresses the country to announce measures to deal with the growing electricity crisis. Among other things, the Government eliminates the fuel subsidy, and on September 17, 2002, the Superintendency issues Resolution No. 31 which establishes a new rate for the end user, and contains an index tied to price variations for fuels and inflation.

- In October 2002, the Government creates a new Anti-Fraud Unit (the "PAEF") and appoints Major General Rafael Guerrero Peralta, as the Commander, which will have authority to investigate and enforce claims of fraud, non-payment and illegal connections of electricity service.

- In October 2002, the Government announces that, as a shareholder of the distribution companies, the Comptroller General's Office will conduct an audit of

those companies, and that an international, independent auditing firm will be retained to perform a second audit. The Government issues a request for Expression from Interested Parties to conduct the audit.

- In October 2002, the Government concludes some negotiations with the Independent Power Producers (IPPs) of existing Power Purchase Agreements (PPAs) but negotiations continue with Cogentrix and the Cogentrix plant goes off-line.

- In December 2002, SIE issues a number of resolutions:

    - *Resolution No. 45:* sets the new daily exchange rate to be used for payments from distributors to generators as the weighted average rate for all exchange transactions in the preceding day.

    - *Resolution No. 47*: sets compensation for frequency regulation, at RD$ 131/MWh.

    - *Resolution No. 55*: establishes a quality regime for street lighting, which postpones payment for street lighting by municipalities to distributors until an inventory of street lamps is conducted in each town.

    - *Resolution No. 56*: sets a temporary quality of service regime until the technical tariff is in place and confirms the 150 percent penalty under the July 2001 Law.

    - *Resolution No. 58*: orders Protecom to issue refunds of amounts billed in excess of 31 days per bill cycle, with a penalty of 10 times the amount paid if the invoice has already been paid to the utility.

- On January 1, 2003, the Government implements the penalty provisions of the July 2001 Law (Art. 93) and Reglamento requiring the distribution companies to provide regulated consumers who are not served with 150 percent of the electricity not delivered.

- In January 2003, the Government's concern with lack of dividends and poor performance by the distribution companies continues to grow, and allegations that Union Fenosa has not complied with its Management Agreement lead to debate about "removing" that company from the sector.

1.3 CURRENT STRUCTURE OF THE ELECTRIC SECTOR

Since the restructuring of the electric sector began in 1997, the architectural landscape of the sector has changed significantly. The following summarizes the major institutional pillars of the sector.

1.3.1 National Energy Commission.

The National Energy Commission (CNE) serves the role of the policy maker and oversees the broad operation of the sector. Under the July 2001 Law, it is vested with a number of powers which include the following (see Article 14):

- To analyze the functioning of the energy sector and to prepare, coordinate and propose to the Chief Executive the necessary modifications to the laws, decrees and norms in effect in these matters;
- To propose and adopt policies and issue provisions for the proper functioning of the sector;
- To study the projections of demand and supply of energy
- To ensure that the proper functioning of the market
- To promote the rational use of energy;
- To submit to the Chief Executive annually and to the National Congress, a detailed report on the actions of the energy sector; and
- To gather information about the sector.

CNE is presided over by a Board that is chaired by the Minister of Industry and Commerce and is composed of the Technical Minister of the Presidency, the Minister of Finance, the Minister of Agriculture, the Minister of the Environment and Natural Resources, the Governor of the Central Bank and the Director of the Dominican Institute of Telecommunications (Instituto Dominicano de Telecomunicaciones - INDOTEL). The Board, which reports directly to the President of the Dominican Republic, has the legal authority to issue regulations for the sector[5] and those regulations serve as the basis for authority for the Superintendent of Electricity.

1.3.2 The Superintendency of Electricity.

The Superintendency of Electricity (SIE) is designed to serve as the regulator for the sector, and is comprised of three commissioners appointed by the President of the Republic and ratified by the National Congress for fixed terms. (Article 31, *et seq*.) The Superintendent is deemed the President of the Superintendency and is vested with specified executive powers to represent and manage the administrative functions of the Superintendency (see Articles 31 and Articles 35, *et seq*.) The members of the Board serve terms for up to four years and may only be removed under limited circumstances such as serious infractions. Although it is not specified in the July 2001 Law, the Superintendency operates as a collegial body, making decisions on substantive matters based on one-vote per commissioner and a majority vote to adopt a resolution.

As set forth in the July 2001 Law, the jurisdiction of the Superintendent includes (see Article 24, *et seq*.):

[5] Under the legal hierarchy in Dominican Republic, legislation passed by Congress and signed by the President is the highest legal authority. Regulations enacted pursuant to legislative authority are the second tier, and resolutions enacted pursuant to regulations are the third tier of authority. Each succeeding tier must find its legal basis in the preceding authority.

- To prepare, analyze and ensure compliance with the structures and prices for electricity, and to set the rates and tolls, pursuant to resolutions, for electricity, and to act on requests to modify those rates and tolls;
- To monitor compliance with the legal and regulatory provisions and the technical standards for generation, transmission and distribution and marketing of electricity. This function includes verifying compliance with the "quality and continuity" of supply, and the preservation of the environment;
- To monitor anticompetitive behavior in the market;
- To apply fines and penalties in cases of non-compliance;
- To consider applications for licenses for generation, transmission and distribution facilities, including granting, revoking or extending such applications by means of resolution;
- To analyze applications for generation, transmission and distribution facilities and to make recommendations to the National Energy Commission on such applications;
- To gather data from the companies in order to determine their compliance;
- To order licensees to comply with applicable regulations;
- To order sanctions for non-compliance with technical standards and other violations (Article 29);
- To establish, modify and complement, by issuing resolutions, the technical standards for quality and security of installations, equipment and other devices (Article 27)
- To adjudicate complaints that are within its jurisdiction;
- To preside over and to supervise the functioning of the Coordinating Organism; with the right to cast a tie-breaking vote (see also Article 36(h));
- To establish by regulation, with the Coordinating Organism (CO), the dispatch order for generators (Article 36(j));
- To oversee the Office for the Protection of the Consumer of Electricity (Protecom) which is authorized to resolve claims filed by the consumers of public service regarding billings, poor quality of service, and other claims regarding the distribution companies;
- To investigate ownership or control ties between companies participating in the electric sector, which investigations are *mandatory* if any participant in the market alleges the existence of a "tie" that is not allowed by the law (Article 11)

The Superintendent also has authority, subject to a three year Statute of Limitations, to determine the degree of severity of any infraction or non-compliance of applicable rules, and can determine the amount of the penalty subject to the limits set forth in the July 2001 Law (Article 126). Affected individuals can appeal the decision

on sanctions and penalties to the administrative law court of Dominican Republic for review (Article 127).

Pursuant to Article 37 of the July 2001 Law and Articles 45-51 of the Reglamento, the Superintendency has its own funding, to be shared with the CNE. All participants in the interconnected system must pay one percent of the value of their purchase or sale transactions in the wholesale market (spot and contract), for either energy or capacity, net of transmission toll payments. Likewise, ETED and electricity suppliers in isolated systems must also pay a one percent charge on the value of their sales revenues. For the first four years of application of the Reglamento, 75 percent of the amount collected will be allocated to SIE and 25 percent to the CNE.

1.3.3 The Coordinating Organism

The Coordinating Organism (CO) oversees the operation of the wholesale market. It was formally established by the July 2001 Law and is a corporation that is totally distinct and separate from the Government. However, it plays an important role in the operation of the wholesale market, essentially serving as a Self-Regulatory Organization (SRO) for the market. The members of the organization are the corporate entities that use the wholesale market, e.g., the generation companies, the transmission company, and the distribution companies. A Coordination Council actually conducts the business of the Coordinating Organism and, pursuant to Article 40 of the July 2001 Law is structured with various representatives who are elected by their representative group. Table 2 illustrates the Current Structure of the Council and the intended structure under Article 40.

Table 2.
Structure of the Coordinating Organism Council

No. of Representatives	Current Structure	Structure under July 2001 Law
1	Private Generation	Private Generation
1	Capitalized Generation Companies	State Hydro Company
1	State Transmission Company	State Transmission Company
1	Distribution Companies	Distribution Companies

Each block of companies elects its own representative to the Council. The Superintendent of Electricity presides over the Board and may vote only in the event of a tie vote (Article 24(n)).

As set forth in Article 38 of the July 2001 Law, the principle functions of the Coordinating Organism include:

- Planning and coordinating the operation of the spot market
- Setting rules for the operation of the spot market
- Provide a means for evaluating energy for the market based on the marginal short term cost

- Coordinating with CNE and the Superintendency in order to promote healthy competition, transparency and equity in the market.

The CO also has some specific technical requirements for market operation which include:

- the development of a central data collection system;
- the definition of any communications protocols and software standards needed to ensure the capture of the data measured at all the interconnection points;
- the certification of the measurement equipment and communications software and facilities implemented by market participants; and
- the hiring of subcontractors, at the participants' cost, to periodically audit the measurement equipment.

1.3.4 Dominican Corporation of State Electric Companies (Corporación Dominicana de Empresas Eléctricas Estatales) (CDEEE)

CDEEE is the parent company of two critical divisions which eventually will be converted to subsidiary corporations: Dominican Transmission Company (Empresa de Transmisión Eléctrica Dominicana - ETED) owns and operates the transmission grid in Dominican Republic, and Dominican Hydroelectric Generation Company (Empresa de Generación Hidroeléctrica Dominicana - EGEHID) owns and operates all the hydroelectric capacity. This structure is established by the July 2001 Law (Article 138) and provides that these entities shall be owned solely by the Government, thereby precluding private ownership. CDEEE also includes the Rural Electrification Unit that ensures the electrification of low-income suburban and rural areas.

Dispatch Center. As the coordinating entity designed to optimize generation, the Dispatch Center is part of CDEEE through the Dominican Transmission Company (ETED). It receives its dispatch merit order from the CO and then applies it to current conditions, taking into account demand levels, transmission constraints and plant outages. It is the coordinating entity designed to optimize generation. It is responsible for providing efficient transmission service.

1.3.5 Ratemaking and Regulatory Processes

The July 2001 Law and the Reglamento describe the processes that must be followed by sector entities, and especially the SIE, for five major types of regulatory intervention: distribution ratemaking, transmission ratemaking, issuance of technical regulations and standards, imposition of penalties, and Reglamento amendments. The prescribed processes concern both the content of regulatory interventions, i.e. what the authorities may do, for instance with regard to the calculation of the cost of capital, and the form in which interventions are to take place, e.g. use of public hearings.

1.3.5.1 Ratemaking

In general, the SIE must make public all reports and documentation relating to the determination of transmission tolls and distribution rates (July 2001 Law, Art. 28).

Distribution rates

Articles 111-123 of the July 2001 Law establish the procedures by which the SIE is to set regulated rates. Regulated rates have two components: the cost of electrical energy and capacity, and the Distribution Value Added (VAD in Spanish), which corresponds to the cost of the distribution service (distribution transformers and wires, operation and maintenance of the distribution systems, meter reading, billing, collections, and customer service).

SIE computes the cost of electrical energy and capacity for each distributor as a weighted average[6] cost, at the distributor's interconnection with the transmission grid, of the distributor's purchases of energy and capacity under contract and in the spot market. The prices paid under contracts with generation affiliates are excluded from the calculation, (i.e., for the contracts they sign with affiliates, distributors can recover no more than the weighted average of other contracts and spot market purchases). This component of the rate can be adjusted according to indexation formulas established by the SIE, at the request of the distributors and on the basis of a cost analysis. The adjusted rates must be published 30 days in advance in a newspaper with nationwide circulation.

On the other hand, SIE establishes the VAD every four years on the basis of incremental development costs and long-run total costs in efficient distribution systems[7]. SIE defines the typical characteristics of the distribution systems to be used as a basis for the computation of such costs. VAD values can be periodically adjusted according to indexation formulas established by the SIE, until the next tariff review. Rate adjustments must be approved by the SIE at least 30 days in advance of their implementation.

VAD will be based on studies carried out or commissioned by the SIE every four years. The studies, plus any other information used by the SIE to make rate-related decisions and SIE's preliminary proposal are placed in the public domain at least three months before the end of the four-year period. Interested parties have at least 30 days to file comments and recommendations on SIE proposal, after which SIE conducts one or more public hearings. The final SIE order establishing the VAD must set forth the reasons for the decision (July 2001 Law, Art. 26; Reglamento, Art. 519). Any disagreements between SIE and the distributors regarding the terms and conditions for the studies, their content, or their result, will be resolved by a specially established Arbitration Commission.

[6] The July 2001 Law does not specify the weights to be used. Presumably they would be given by the relative share of total purchases excluding those from affiliates.

[7] These two types of costs are intended to be complementary, the former measuring the cost of expansion of the system over at least the next 15 years (capital cost and additional operation and maintenance), and the latter measuring the replacement costs of the current system (again, capital and operation and maintenance). The cost of capital will be the real opportunity cost of capital faced by Dominican distributors in international financial markets and will be set by the Central Bank of the Dominican Republic.

Transmission ratemaking process

Articles 82-89 of the July 2001 Law set forth the rules for computing transmission tolls. Every four years, SIE must establish the tolls for the main interconnected system of the Dominican Republic. For other systems, SIE can issue a mandatory decision if there are any disagreements between transmission service providers and prospective users.

Regulated tolls will be based on the total long-run cost of the transmission system, comprising the capital cost plus operation and maintenance costs (including losses) for an efficient system. The capital charge will be computed using the replacement cost of the efficient facilities and the opportunity cost of capital also used for the computation of VAD (see footnote 5). All tolls are charged on the basis of coincident peak demand levels.

Three months before the end of the four-year period for the then-applicable toll, SIE must publicizes its tariff proposal, with all supporting documentation. SIE conducts a public hearing and allows interested parties to submit their comments within two weeks after the hearing. The final SIE order must set forth the reasons for its decision.

1.3.5.2 Issuance of SIE Regulations and Technical Standards

Article 41 of the Reglamento specifies that prior to issuing technical standards for quality and safety for electrical equipment and facilities, SIE must request opinions from the CO and electricity sector companies. For street lighting service, Article 42 requires a prior opinion from the distributors, the CDEEE, the Dominican Municipal League, and five of the country's main municipalities, before the SIE can issue norms and standards. SIE issues regulations for distribution service improvements and extensions that are subsidized by CDEEE or municipal governments, but only after consultation with CDEEE, the distributors, and five of the country's main municipalities (Art. 135 of the July 2001 Law and Art. 43 of the Reglamento). Finally, before SIE issues regulations for the tendering of contracts to supply capacity and energy to the distributors (once the existing PPAs expire, or demand growth requires additional contracts), SIE must provide the CO and market participants an opportunity to comment (Reglamento, Art. 44). Once the contracts are executed, contract information relating to dispatch and operation must be submitted to the CO to ensure the contract terms are compatible with the operation of the interconnected system (Reglamento, arts. 282-283).

1.3.5.3 Imposition of penalties

Penalty procedures are established in Arts. 504-516 of the Reglamento. SIE has authority to initiate investigations into breaches of the law or regulations. Charges and investigation reports will be released to the accused party, which will be allowed to respond. The SIE will then decide about the imposition of penalties. Penalties can be appealed to SIE for reconsideration and then to the CNE, and in any case to the Administrative Law Court.

1.3.5.4 Reglamento Amendments (Reglamento, Art. 517)

Amendments to the Reglamento can be proposed by CNE, SIE, CO, and any market participant. Proposed amendments will be circulated for comment by the CO to all market participants. Following a comment period, the CO will submit its opinion to the SIE, taking the comments into account. The SIE will hold public hearings and provide its own recommendation to the CNE, which will make the final proposal to the Government.[8] All documentation throughout the process must be made public.

1.3.6 Appellate Jurisdiction and the Appeal Process

The two Government entities which have decision-making authority and from which an appeal process must be established are CNE and the Superintendency. The Coordinating Organism is a private entity created by the July 2001 Law and is subject to SIE monitoring so that its decisions are determined by the rules of that organization. [9]

Superintendency: As an independent regulatory organization, the decisions of the Superintendency ideally should be appealable to a non-political entity, normally the judiciary. As noted above, Article 127 of the July 2001 Law states that decisions regarding fines and sanction imposed by SIE are appealable to he Administrative Law Court. As is common in countries that follow the Napoleonic Civil Code, the acts of the State conducted under the State's constitutional prerogatives cannot be challenged before the general courts of law. Instead, they must be appealed to a specialized court, the Administrative Law Court ("Tribunal Contencioso-Administrativo"), whose decisions are final.

On the specific matter of applications for a concession, permit or authorization, Article 11 of the July 2001 Law does specify that the CNE will hear appeals of SIE decisions, whether granting or rejecting such applications. In turn, the CNE may, if it deems it advisable, take the case to the President of the Republic.

During meetings with various organizations, however, we were told that CNE considers appeals from the Superintendency and that the standard of review is very limited and applies only to a review of the applicable law. Stated differently, CNE would not overrule any factual findings, but would have authority to review the application of the law to the factual findings.

The National Energy Commission: CNE (or the "Commission) is part of the Executive Branch of Government that is managed by a Board, of which the Minister of

[8] Pursuant to Art.28 of the Modifications to Reglamento, any SIE decision that goes against the July 2001 Law, the Reglamento, or the regulations issued by the SIE and the CNE, can be appealed to the CNE.
[9] Article 24(d) of the July 2001 Law gives the SIE the power to oversee the behavior of the electricity market. Article 24 (l) gives the SIE power to resolve conflicts among entities and persons subject to its oversight, which includes wholesale market participants.

Finance serves as the President. As part of the Executive Branch, it reports to the President of the Republic through the President of the Board.

Aside from the statutory language, we were told, as noted above, that CNE only has authority to review the legal basis of the Superintendency's decisions. This limited review may arise, in part, from its legal authority which extends to issuing regulations, a higher legal authority than the resolutions that the Superintendency is authorized to issue. The authority to issue regulations gives CNE a broader authority to set the legal tone and policy for the sector. CNE informs us that 13 appeals from SIE orders are pending before it.

The Administrative Law Court*:* The final appeals authority for the decisions of the SIE or the CNE is the Administrative Law Court. As noted, this type of court is common to countries that base their laws on the Napoleonic Civil Code. In the Dominican Republic, it was created by Act No. 1494 of 1957. Its jurisdiction is restricted to appeals from orders or decisions that are issued by the Governmental entities, with a standard of review that is limited to the application of the law by the Government agency.[10]

The Court is formed by three justices appointed by the Supreme Court.[11] In addition, whenever an appeal is accepted by the Administrative Law Court, the Office of the President appoints a Court Secretary and an Attorney General to represent the Government agency whose decision is being appealed. The Court has 30 days to issue a decision; if a decision is not issued, the appeal is deemed to be granted and the Government order or decision that is the subject of the appeal is deemed vacated. The Court's decisions can only be appealed to the Court itself for reconsideration. However, the jurisdiction of the Court to hear an appeal can be challenged before the Supreme Court. If the Supreme Court considers that the case falls outside the jurisdiction of the Administrative Law Court, then the case goes to the general courts of law.

Arbitration Commissions- The July 2001 creates two types of arbitration commissions: one for disputes about the value of rights-of-way sought by distributors to build distribution lines[12]; and another one for disputes between the SIE and the distributors about the tariff proposed by the SIE upon the cuatriennial rate review.[13] These commissions are to be set up only in case of disputes and to be purely temporary in nature, being disbanded upon completion of their intervention in a specific dispute. To our knowledge, no such commissions have been set yet.

[10] The standard of review is thus the same as applicable to the CNE.
[11] Under recent reforms, Supreme Court justices are appointed by a Judicial Council that includes representatives from all major political parties and that oversees the entire administrative structure of the judiciary, following the model of Germany, Spain, Mexico, Argentina, and an increasing number of countries worldwide.
[12] July 2001 Law, Arts. 75-81 and Reglamento, Title V, Arts. 130-139.
[13] July 2001 Law, Art.119 and Reglamento, Title XII, Arts. 520-522.

1.3.7 Commission on the Reform of Public Enterprises (Patrimonial Fund (Development Fund) (FONPER)[14]

FONPER, formerly the Commission for the Reform of Public Enterprise (CREP) is specifically dedicated to "realize reform" and to assure that reforms are sustainable. As electric sector reform became a topic for Government review, CREP representatives met with CNE, SIE, CDE and the distribution companies to identify key issues and begin to review steps to address reform. CREP was also involved in the privatization, capitalization, or other types of reform of other state-owned enterprises, especially the formerly important sugar sector. Now, its successor, FONPER, believes that considerable analogy and understanding of sector reform relevant for electricity has come from the earlier CREP experience.

FONPER is the official representative of the state as shareholder in the capitalized companies. At present, CDEEE is participating in the board meetings of the companies, but after recent changes, the Government will be allocated an additional seat in the board which FONPER will occupy. FONPER told us that in the future it would be the sole state representative, but that it needs to first acquire sufficient expertise about the electricity sector if it is to be an effective board member.

We were told that the Law on Public Enterprise differentiates between Public Service enterprises and all others.[15] Public Service enterprises cannot be "given away" by the State and there are certain aspects of the Sector that are considered by some to fall into the Public Service category. This issue is under review.

FONPER maintains an impressive data room where virtually every legal document – including all terms of reference, contracts, etc. – is recorded and maintained on file. For example, FONPER maintains a book that lists reference and legal materials available in the data room, and a CD of internet/web- available information that quite thoroughly tracks the process of capitalization and reform.[16]

1.4 PRIVATE SECTOR INVOLVEMENT

Upon completing the capitalization of the generation and distribution companies, both the Government and the private companies became substantial minority shareholders. The following summarizes the current status of the capitalized companies and private sector generation.

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[14] In Spanish, referred to as both (1) "El Fondo Patrimonial de las Empresas Reformadas" and (2) "Fondo Patrimonial para el Desarrollo" (formerly Comision de Reforma de la Empresa Publica - CREP).

[15] We were told that the Law on Public Enterprise differentiates between Public Service enterprises and all others. Public Service enterprises cannot be "given away" by the State and there are certain aspects of the Sector that are considered by some to fall into the Public Service category. This issue is under review.

[16] Our team reviewed the main capitalization agreements; these included the management agreement, by-laws of the capitalized companies, share sale and purchase agreements. Other document review was less relevant to this study and included pre-qualification of bidders for capitalization auctions and consultant reports about the structure of the capitalization process.

1.4.1 Capitalized Generation.

The structure and ownership at the present time consists of the following:

- *Itabo*: Itabo was initially capitalized to Gener (Chile) and Coastal (US) companies. At the time of capitalization, Itabo owned approximately 21 percent of the installed generation capacity, consisting of about 573 MW (448 MW of available capacity). By the end of 2002, Itabo owns approximately 22.5 percent of the effective power in the generation system.
- *Haina*: Since its initial capitalization to two US companies, Seaboard and Enron, Haina has undergone several transformations in ownership. Its current ownership consists of Commonwealth Development Corporation (England), Basic Energy (US), the Caribbean Basic Fund (a consortium of small entities), Heart Energy (US) and the National Finance Group (a consortium of Dominican Republic companies). It owns approximately 22.5 percent of the effective power generation, or 600MW, including a new barge project.

1.4.2 Capitalized Distribution

- *EdeNorte and EdeSur*: Unión Fenosa, a Spanish company, which also served as an advisor to the Government regarding capitalization of the companies, has maintained its interest in these two distribution companies, since the initial capitalization. Under Article 11 of the July 2001 Law, distribution companies are allowed to own up to 15 percent of the "maximum demand of the interconnected electric system." Consistent with this provision, EdeNorte and EdeSur each could own up to 15 percent each for a total of 30 percent.
- *Edeste*: AES, a United States power company, has maintained its interest in Edeste since the initial capitalization. Consistent with Article 11 of the July 2001 Law, it also owns generation which is summarized below.

1.4.3. Private Sector Generation

- *AES*: The AES Andrés facility is a 300 MW combined cycle plant that will use liquefied natural gas imported (LNG) from Trinidad. The plant is expected to come on line by early 2003. It also owns the Los Mina facility, a 210MW open cycle plant that is being converted to use LNG.[17]
- *Union Fenosa:* Unión Fenosa which is the parent company of the two distribution entities, EdeSur and EdeNorte, also includes another

[17] According to AES, SIE has issued an order exempting the Los Mina facility from the 15 percent limitation in the July 2001 Law on distributor ownership of generation because AES owned the facility prior to the capitalization of the companies.

corporate entity which owns two generation plants consisting of "Empresa Generadora Palamara" with 100MW and Empresa Generadora La Vega S.A. with 80MW.

1.5 MARKET STRUCTURE AND OPERATION

Electricity is provided by means of a wholesale market for electrical energy and capacity that is structured through (1) long term power purchase agreements (PPAs) with power producers and (2) a spot market that the Coordinating Organism oversees. During the year 2002, generation was distributed among 21generation companies as illustrated in Table 3.[18]

Table 3
Ownership of Generation Capacity

COMPANY	MW	PERCENT
Haina	663.3	20.8%
Itabo	570.9	17.9%
EGEHID	512.0	16.1%
CSPM (Cogentrix)	300.0	9.4%
Los Mina V+VI (Dominican Power Partners)	236.0	7.4%
UF: Palamara + La Vega	194.5	6.1%
Smith Enron	175.0	5.5%
Seaboard EDN+EDM (Transcontinental Capital)	115.0	3.6%
Victoria I (Energycorp Caribbean)	103.5	3.3%
Consorcio LAESA	79.9	2.5%
C.E. Puerto Plata (Coastal)	76.9	2.4%
Diesel Pimentel	55.0	1.7%
Complejo Metalúrgico Dominicano (Metaldom)	42.0	1.3%
Maxon Engineering	30.0	0.9%
Montecristi	12.0	0.4%
A.Barril	6.3	0.2%
Dajabón	3.8	0.1%
Yamasá	3.0	0.1%
La Isabela	1.5	0.05%
S. Grande Boyá	1.5	0.05%
Oviedo	0.8	0.03%
TOTAL	3,182.9	100%

[18] The data is based on Reports from the Coordinating Organism. If market share is based on percent of GWh generated during 2002 using a total of 9,623.1 GWh for that year, the limited data we had showed the following: Haina (2,241.2 GWh or 23.3%), Itabo (1,867.3 GWh or 19.4%), EGEHID (736.3 GWh or 7.7%), UF (Palamara and La Vega (1,422.5 GWh or 14.8%), and Seaboard (885 GWh or 9.2%). Data for the other companies was not available for this calculation.

The July 2001 Law provides that CDEEE will administer and manage the IPPs. However, over the past several months, most of those contracts have been renegotiated with the sellers to buy down the stranded costs associated with those contracts and to transfer the contracts from CDEEE to the distribution companies owned by AES and Unión Fenosa. The current schedule for renegotiating the PPAs is set forth below.

Table 4
Renegotiation of Power Purchase Agreements

Generator	Date of Completion
Seaboard/TCC	September 2001
CEPP	September 2002
DPP	August 2001
Metaldom	In process
Maxon	In process
Laesa	In process
Smith & Enron	In process

The supply of electricity is a mix of power delivered under long term Power Purchase Agreements and a spot market that is coordinated by the Coordinating Organism. Under Article 110 of the July 2001 Law, no more than 80 percent of the demand for power can come from long term PPAs, thereby ensuring that at least 20 percent of the power consumed will come from the spot market.

The spot market relies on competitive bidding based on a generator's variable costs as a means to provide a merit order for dispatch. Variable cost information is submitted to the Coordinating Organism weekly[19] which then determines the merit order dispatch based on variable costs. On the day of dispatch, the generators are dispatched in real time and supervisors make adjustments based on the varying demand requirements. The supervisors, who sit in close proximity to representatives from the Coordinating Organism, inform the representatives of the adjustments. Generators that are dispatched all receive the same price for their power, the marginal cost. If a conflict develops between dispatching a spot market generator vs. a bilateral contract, the spot market generator is given the first priority. Payment for power sold on the spot market is due in approximately 28 days from the day of dispatch.

1.6 REGULATED RATES

With the implementation of the "technical tariff" after a three-year transition period, regulated rates will be equal to the sum of capacity and energy charges and transmission tolls, passed through from the actual costs paid by the distributors to the regulated users, plus a charge for the distribution service proper, known as the distribution value added or VAD (Valor Agregado de Distribución).

The criteria for determining VAD are set out in the July 2001 Law. The magnitude of this charge was originally calculated in a 1998 study by the Chilean

[19] Article 182 of the Reglamento.

consultancy Synex, but those values were considered "too low" by the SIE, and the VAD levels from Panama were used instead. We have not conducted an independent analysis that would validate or disprove these VAD charges. SIE informed us that a study is be concluded in February 2003, and that new VAD values (the technical tariff or "tarifa técnica") based on this study will be implemented in March or April, 2003. However, no figures appear to be available. The new tariff will include a full quality of service regime for both transmission and distribution.

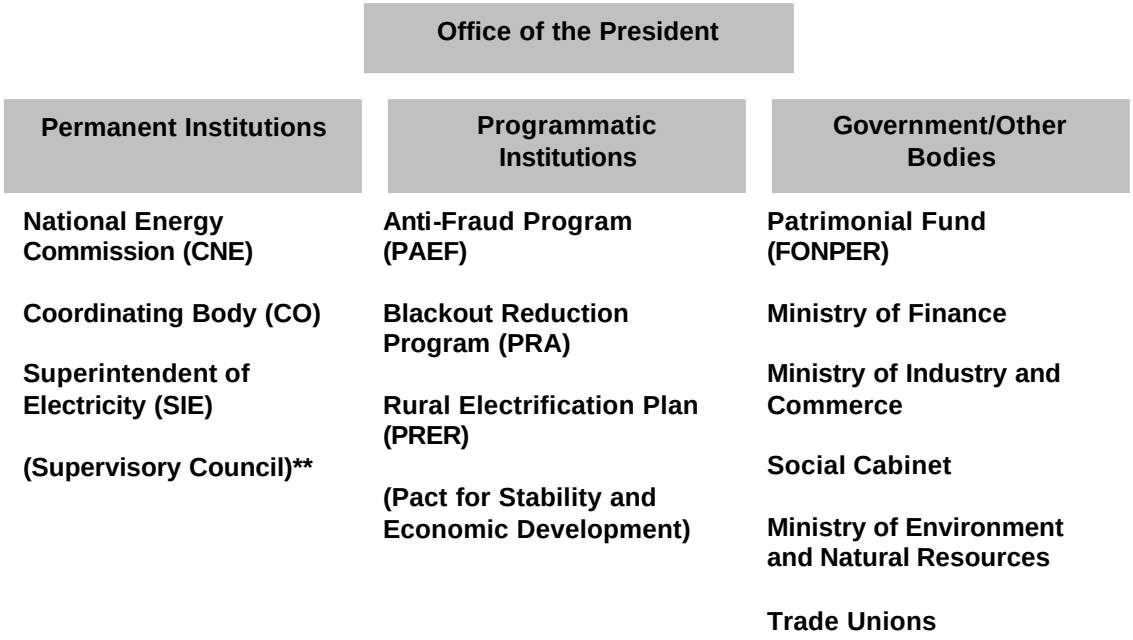
2.0 FACTUAL FINDINGS AND THREATS TO SUSTAINING THE REFORMS

2.1 CONDUCT AND OPERATION OF STATUTORY INSTITUTIONS

From a global perspective, as compared to the pre-reform market structure and institutional framework supporting the electricity sector, remarkable progress has been made in the last two years to bring the sector into its second generation of reforms. Government has committed to sector reform, a viable market model is in place and the institutional framework is sufficient to supervise competition in this particular market setting. But from a day-to-day customer perspective, since enactment of the July 2001 Law, improvements in electricity sector performance have been stymied by a variety of political and economic factors such as the devaluation of the Dominican peso and the most recent unanticipated external factor of the Venezuelan oil crisis. The fact that the market actually began operating and necessary institutions were established before the enactment of the July 2001 Law makes this transition particularly challenging. A lack of published Government strategy, flaws in the law and inadequate public information and participation are taking their toll on how citizens perceive Government and the sector and how electricity service is performing in the country. *In order to complete the reform process and to secure an institutional setting in which the sector can operate, the performance of the market organization as well as the regulatory institutions are critical to securing sustainable reforms.*

Institutional Breakdown[20]

Diagram 1
Institutional Framework of the Electricity Sector*
Dominican Republic



Institutional Framework of the Electricity Sector*
Dominican Republic

* *State companies not included*
** The Presidential Commission for the Financial Sustainability of the Electricity Sector

There exist two types of institutions supporting the sector. The first includes institutions that are intended to be *permanent* such as the National Energy Commission (CNE), Coordinating Organization (CO) and the Superintendent of Electricity (SIE). These institutions are mandated to help develop, guide and oversee sector operations on behalf of Government and the public-at-large. In addition, the Presidential Commission for the Financial Sustainability of the Electricity Sector ("Supervisory Council") is a body that currently reports directly to the President on sector matters. For purposes of this report, the Supervisory Council is addressed as a permanent institution.

The second set of institutions has emerged based on *targeted programs* to support certain aspects of sector development. These include the Blackout Reduction Program (PRA), the Anti-Fraud Program (PAEF) and the Rural Electrification Program (PNER). These will either be temporary, emerge as departments or stand-alone institutions

[20] For background information, see Title III, Article 6 of the July 2001 Law, "Institutions of the Electric Sub-Sector".

themselves depending on how the reform process progresses. Also emerging is a "Pact for Stability and Economic Development" informally convened under Government auspices in mid-December 2002; although now acting as a volunteer coalition, the work of this Pact vis-à-vis electricity sector reform may be important in terms of information, awareness and action throughout the country.

Finally, there are key institutional roles to be played by certain Government bodies including the Ministries of Finance, Environment and Natural Resources and Social Cabinet, as well as the non-Government sector, notably trade unions and citizen groups. Under the Dominican Corporation of State Electric Companies (CDEEE), two subsidiaries exist: Transmission Company (ETED) and the Hydroelectric Generation Company (EGEHID). CDEEE is an important organization to watch in terms of institutional regulation of the sector at this stage of reform. CDEEE has inherited the technical and managerial expertise of its predecessor Dominican Electricity Corporation (CDE), much of which needs to now be transferred to SIE, CNE and the non-Government sector.

What is evident from this discussion and the following discussion is that the Government continues to have a significant role in the sector. Those roles often have different and possibly conflicting objectives as summarized below in Table 4. These various roles and objectives can be confusing to sector players when the Government speaks or takes action.[21]

Table 5
Government Roles and Objectives

Government Role	Government Objective
1. A ***substantial shareholder*** (FONPER);	1. As a shareholder (FONPER), it expects ***dividends***;
2. A ***regulator*** for the sector (SIE);	2. As a regulator (SIE), it seeks, *consumer protection*, ***efficiency and compliance*** in the sector;
3. A ***policymaker and planner*** for the sector (CNE);	3. As a policymaker (CNE), it ***plans for the sector*** to serve the public policy objectives;
4. A ***sector player*** in the market (CDEEE as sole owner of hydro and transmission facilities);	4. As a sector player (CDEEE), it ***operates as a company***;
5. A ***provider of s subsidies*** for low income people (PRA, PNER);	5. As a provider of subsidies (PRA, PNER), it seeks to ***help the underprivileged***;
6. A ***consumer*** of electricity; and	6. As a ***consumer***, it needs a reliable source of electricity that it must pay for; and
7. An ***enforcer*** with prosecutorial powers (PAEF)	7. As an enforcer (PAEF), it wants to ***deter criminal conduct.***

[21] For example, if SIE orders audits of the regulated companies, is it doing so to protect the Government's role as a shareholder or to protect consumers. Generally, these roles should not be commingled, e.g., it is not the regulator's function to protect the Government's role as shareholder.

2.1.1 The Personalization of Power

Without exception, each key institution involved in the sector is led by a strong individual. From the CNE to the Superintendent, from CDEEE to PROTECOM these individuals demonstrate strong personalities and leadership capabilities. Throughout the sector, there is an appreciation of this strong individual leadership to the point of referring to an institution by using the name of the lead individual. However, as the sector evolves to increase competition and support private sector engagement, strong personalities and overt individual actions by leaders increasingly may challenge the sustainability and predictability of institutional basis on which the sector will perform.

During this transitional phase of reform, strong personalities can be beneficial to mobilize action and frame key issues. However, as the sector becomes more market oriented and longer-term private sector strategies are put in place, Government, investors and customers will need to know the "rules of the game", despite who is leading the regulatory body, the national energy commission and other institutions. *A critical moment has arrived when Government and sector leaders can and need to commit to the institutionalization of power and to gradually diminish the importance of personalities.* This is not to say that intelligent, strong-willed leadership is not important, and can help to guide institutional performance, but rather, that these characteristics should help guide the institution rather than define it. This is especially true of SIE; according to international best practice, the regulatory body should be a truly collegial body.

2.1.2 Institutional Processes and Relationships

Since 2001, institutions required to support this model have been gradually established albeit, nascent in their overall capacity and ability to operate. *As this second phase of restructuring is carried out, the importance of institutional relationships, published and respected institutional procedures and public participation need to be underscored*. By all accounts, there is an opportunity to bypass established legal procedures whether attributed to historic habits of doing business, political influence or merely gaps in procedural oversight.

Good governance in sector operation is key to securing reforms. The outcomes of reforms depend on how they are guided, both through the political process of reform as well as via the institutional supports created to facilitate new order. The absence of a clearly articulated Government strategy for the sector poses difficulty for institutions, customers and investors. Until this strategy is issued[22], institutional leaders are responsible for assuring that the direction in which they are guiding their institution is in sync with the anticipated Government strategy. They are also responsible for responding to public discord and investor outrage based on their not fully knowing what the Government intentions are for the sector. *The lack of published strategy seems to have resulted in increased collaboration among institutions; this is better than institutions isolating themselves into small kingdoms.*

[22] CNE expects to publish the plan in June 2003.

However, increasing confusion is being created by this institutional team approach to all sector aspects for the public, companies and investors. *It is essential that CNE be fully developed as a policy-making entity with full separation from SIE, although SIE can certainly provide expert input into policy initiatives considered by the CNE.*

At present, sector institutions are struggling to understand their own legally mandated jurisdictional limits as well as the jurisdictional limits of the other sector institutions. The separation of policy-making, regulatory and enforcement roles have not yet been sufficiently distinguished among institutions. Although roles and responsibilities of various institutions are legally prescribed, in practice, the vague boundaries among players, coupled with personalities that seek to implement specific agendas, has resulted in confusion within the sector and among the general population. A noticeable area of overlap in responsibility is the reliance of the SIE on CDEEE staff technical support. This reliance needs to be a temporary condition and improvements in SIE technical staff will alleviate the need to rely on CDEEE staff; moreover, in CDEEE's new role as a market player, it is important that SIE maintain the same relationship with CDEEE as it does with competing market players.

Many institutional processes and relationships are impacted by what appears to be considerable access for all institutions to the Office of the President. Almost on an "as needed" basis, this access routes around established institutional protocol, breaks the management hierarchy of the sector and obscures the attempted predictability of sector management during this transition.

2.1.3 Institutional Predictability

Many private sector and public sector onlookers believe that there is no center of power in the sector but rather, that it is shared between CDEEE and the Office of the President. This perception is not uncommon in transitional settings where market players learn to relate to newly established institutions. Indeed, the July 2001 Law was intended to divest the previous system from its centralized decision-making and to create and formally establish new institutions that are vested with that power, e.g., CNE, SIE, CO, etc. these lingering perceptions about centralized power are most likely due to the lack of institutional clarity and confusion of institutional roles.

A failure to understand and to use these new institutions, and instead revert to previous "power lines" to centralized decision-making entities is undercutting the sustainability of these institutions. *For example, the willingness of some Government institutions, specifically the Office of the President, to intervene in the decision-making process was cited by one investor as "extraordinarily frustrating."* Institutional clarity and definition of roles and responsibilities will provide a tremendous boost in predictability of how the sector will function. For consumers, the roles of institutions is confusing – people are not sure whether CDEEE is fully private, whether the Government is 100 percent operating the sector, whether SIE is truly independent, etc. On at least one occasion, we were told that it was not clear who has the authority to regulate the sector. *This is an issue about which there should be no ambiguity—SIE should have independent*

authority to regulate the sector, and CNE should have authority to address policy and planning issues.

In terms of process that is predictable, *market players agree that the July 2001 Law is "sacred."* This view was evident by frequent referrals to "the Law" during our interviews. Nevertheless, processes for decision-making and clearly defined roles of new sector institutions remain unclear. Clarity can be enhanced with additional public information while other aspects will require additional regulations and legal detail. Specific issues raised during our interviews include:

- Considerable private sector input concerning the lack of confidentiality of information, notably at the CNE level, e.g., that information or conversations that a company may have with CNE concerning inquiries and/or intentions to participate in the sector should be treated with a high degree of professional business judgment and not subsequently shared with other company or Government agents. More attention needs to be paid by managers and staff as to what information is to be shared with Government, the public or otherwise. Whether based *in fact or perception*, it is a critical issue for investors to know that dialogue with CNE and other Government players is professionally respected and that information is provided for limited review and closely guarded.
- It appears that the SIE is playing a larger than usual role for a Regulatory body in sector policy-making. It is very important that this function not become part of SIE and that its presence as an independent overseer of sector operations has the security and respect of sector players and customers.
- Expressed uncertainty by some as to whether the CO is assuming its full responsibility in addressing market issues, even though, by most accounts, market players expressed satisfaction with how the CO is operating and one company expressed the view that the CO was responsible for holding the entire sector together.
- Private sector and potential investors have expressed concern that CDEEE is not treated the same as other market players. By virtue of being a state company, CDEEE has advance knowledge to non-public information, important historical information and institutional knowledge embodied in its large staff that can affect how CDEEE performs in this new market.

2.1.4 Information and Awareness

Markets are messy. But markets thrive on information. One of the most important roles of Government and regulatory institutions, especially during transition, is to provide public information. Two primary types of information need to be addressed: (1) Public information and Awareness and (2) Information for/from market players, including Government.

2.1.4.1 Public Information and Awareness.

Restructuring the market for competition requires strong customer buy-in and participation in the reform process in order to achieve reforms for the long term. *At this time of critical reform, ad hoc preparation and publication of public information cannot suffice to adequately prepare customers for the dramatic changes in how the sector will function. It also fails to satisfy investors' need to secure reliable and trustworthy information on a regular basis.* Finally, absent a coordinated information strategy on sector reform, gaps in information will be filled in by rising customer and investor concerns that more often than not are based on half-facts and rumors. This means that both the content of information as well as the approach to conveying information need to be streamlined during this transition phase to assure accuracy, consistency and useful information flows.

Transparency in all levels of decision-making will advance the availability of information

The country continues to operate in a culture of non-payment, expectation of poor service and entitlement to free electricity as a Government service. It is also a society in which grid-connected customers generally have generators to supply back-up power – it is apparent that these generators are used frequently and that the cost of petrol to fuel them is not inexpensive. *For Government, residents, businesses and industry, public information and awareness efforts need to address both a change in energy using habits as well as the psychological impact of reforms.* Citizens can be reminded of their willingness to pay for telephone and cable television as long as their electricity service is of a certain level of quality. Where people were not traditionally charged, they are now asked to pay increasing prices; where use went unwatched, it is now metered. These are significant changes for the way people think and the way they spend their hard-earned money.

A number of permanent and programmatic institutions are carrying out various levels of public information and awareness campaigns, as are certain Government bodies (e.g., Ministry of Industry and Trade). We recommend several improvements be made:

(a) *Government (e.g., CNE) can take a more formal and coordinated role in providing information about its plans and sector strategy.* This function may improve as this new institution grows into its statutory role. This includes mechanisms for monitoring feedback from customers, companies and Government and for considering feedback for policy and sector development purposes (e.g., SIE, possible development of independent institutes for such monitoring); and
(b) Information, awareness, education and participation aspects promoted by all institutions be more coordinated and targeted (e.g., CNE).

(c) *Government spokespeople be established and used at the key institutions* – SIE, Protecom, CNE and at the CO can be fully dedicated to providing information in a timely and clear manner.

(d) In addition to institutional readiness to provide information, *Government needs to have the capability to implement sufficiently sophisticated information campaigns in response to particular situations, often not predicted.* This approach goes beyond use of media. For example, a campaign can be developed to respond to disruptions in the transition process due to the recent Venezuelan oil crisis that has deeply impacted the country. This would provide clarity for citizens and build confidence in Government's actions.

2.1.4.2 Information for Market Players

Although market players will benefit from information provided to the public, they also have specific, more technical information needs that can be better addressed. Our recommendations under the CO as well as our overall suggestions for building SIE capacity will aid market players apparent gap in accurate market information. *We also suggest that a "Roundtable" for market players be conducted, perhaps quarterly, where at least during the transition period, companies and Government institutions gather to review sector changes, provide inputs, etc. It is possible that such a roundtable could fall under a Chamber of Commerce or other non-Government initiative.* At present, there is a sense among market players that information received is not accurate or, more commonly, that when there is sufficient information, it is difficult to understand which issues are most important in the current market setting. This is especially the case with Government reform measures where market players remain uncertain as to how areas of sector reform are being prioritized or what the priorities are.

2.1.4.3 Channels for information dissemination

For most consumers, the lines of responsibility for implementing the sector remain murky between Government and private sector. In most instances, these lines are nonetheless irrelevant as customers simply seek reliable, affordable service. Finger pointing is primarily aimed at Government and the distribution companies but ultimately, the Government will have to bare the brunt of disgruntled citizens. Contributing to confusion is the array of information sources and types of information provided by various institutions:

- The **SIE** has a Public Information unit and publishes information on energy efficiency as well as "how to read a meter" and "how to read a bill" literature.

- Via the consumer complaint unit of SIE, **"PROTECOM**", a variety of consumer educational materials are published. Radio programs are broadcast on national radio as well as on local stations and broadcast in the barrios; PROTECOM coordinates much of this information to barrio leaders.

- The **Anti-Fraud Unit** conducts public awareness on good energy practices and conservation. Awareness information is also provided on how to prevent fraud.

- The **PRA** publishes educational pamphlets about its program.

- The **Distribution Companies** are providing increasing literature on meter reading and energy savings. It is important to note the increasing role of companies in public information and awareness throughout the country. Edesur/Edenorte noted that fraud is worsening and collections have improved with the installation of an information system. Still, they say that they continue to battle the customer mentality not to pay for electricity, have commenced some education activities and are working in the barrios to increase awareness about the penalties for non-payment. Company representatives are said to have visited regions where non-payment occurs and succeeded to convince 10 percent of those households to begin payment.

- **Community based organizations**[23] are printing hand outs on an increasing basis calling for Government accountability and the alleviation of black outs. Much of this Church-based work is responding to gaps in information – it is important that misinformation and rumor be met with the publication of Government intention and response.

- **The Ministry of Industry and Trade** has an energy efficiency and renewable energy awareness campaign underway; a textbook on renewable energy and several home energy savings pamphlets have been published and disseminated.

At least during this phase of transition, it would be useful for Government to take some account of which Government institutions and programs are disseminating what types of information. *Where possible, Government may wish to streamline information dissemination, e.g., establish an Energy Information Center and a CNE Public Affairs Unit.*

2.1.4.4 Tools used to convey information

At present, a mix of institutional and informal information and awareness tools are used to convey information on a variety of issues. These include: pamphlets on "how to read your meter" (Protecom, PRA, Distribution Companies) and "how to save energy" (PAEF, MIT) to radio clips on "why private investment is good or bad for the country" (Pact, media). During this transition, it is important that significant information is prepared and sufficiently disseminated to all segments of society. However, in light of the

[23] Another example came to our attention of how public information from an external community based group can influence policy and at least initiative dialogue. During our December 2002 visit, a foreign non-Government organization faxed an "anti-Fenosa" power point presentation to Government, donor and company officials, which summarized other countries' experiences with Union Fenosa and listed clientes@uef.es as the contact for additional information.

new concepts and market approaches that are being introduced as well as the general sentiment that electricity is a service provided by Government, *it is also important that information not increase confusion.*

The most readily available information tool for Government and the sector is media. Use of the media, particularly print, but radio and television as well, is the most powerful tool for the Office of the President, CNE, SIE, CDEEE and companies to express their concern, "courageous actions," and to levy accusations against counterparts. Public debate may well serve a useful purpose to educate the public and evaluate political options. *However, the current display of sector "angst" in the media where Government party is pitted against other Government parties and/or private companies must stop*! This is especially true for the Superintendency which should remain "above" such dialogue in order to preserve its objectivity and the integrity of its decision-making processes. The media should be used as a tool to inform the public and solicit feedback instead of mudslinging and grandstanding. This type of coverage is appealing to the press but ultimately reflects back on the Government's inability to pragmatically implement sector reform.

A lack of sector expertise in the media needs to be addressed; as the market evolves some energy experts and even dedicated journals or columns will likely emerge. The manner of press coverage in the country consists of highly opinion-based journalism. The CNE and SIE can work with journalists to assure factual coverage of the sector and can systematize the manner in which information is provided to media to a greater extent than is presently the case. It will also be important to encourage media "follow through" so that when a crisis-like story is introduced, the Government makes sure to follow through to inform the Press so that resolution can be as aggressively reported.

The use of pamphlets and posters is expanding. Consideration should be given to the use of natural information networks and resources that may include business associations, non-Government organizations, schools and local government offices. A national media campaign prepared by Government but using media channels to disseminate periodic/regular messages about sector reform would be useful over the course of the next two years. Included should be a contact number (e.g., CNE, SIE) for additional information.

2.2 STATUTORY INSTITUTIONS, PROCEDURES AND OPERATIONS

The National Energy Commission, the Superintendency of Electricity and the Coordinating Organization are the primary *statutory* entities that have been established to regulate and support sector operations. Each entity is intended to serve a particular role concerning sector oversight, management and information. Although this basic institutional infrastructure presents the basis on which a viable market can operate, none of the institutions are operating at the level of market sophistication that is required to effectively support a well-governed sector. *A number of factors, separately and in combination with each other, impede progress and sustainability of transitional reforms--the introduction of new, often unclear approaches to sector management; inexperienced*

staff in new institutions; evolving management systems; and a lack of public awareness, understanding and support for reform.

In addition to these three key institutions, it is important to note the Presidential Commission for the Financial Sustainability of the Electricity Sector (the Supervisory Council). Initially designed as an *ad hoc* group to provide advice to the President on sector issues, the Commission appears to have established an important institutional identity on which public, private and Government expectations have developed. It is unclear whether this Commission is intended to be established as a long-term institution or, as we suggest, serve as a transitional body, the role of which will be consumed by other permanent institutions as reform progresses. For purposes of this assessment, the Commission is included as a permanent institution.

2.2.1 The Presidential Commission for the Financial Sustainability of the Electricity Sector (the Supervisory Council)

This Presidential advisory council has been in existence since March 2001 and is comprised of five members.[24] At this stage in reform, it is clear that this Council plays a powerful, if not systematic role in how the sector is evolving. During our visit in December 2002, the issues of the peso devaluation and the Venezuelan oil crisis were put before the Council in conjunction with Presidential meetings. During virtually every meeting with Government parties, the work of the Council was mentioned.

This type of council serves an important function during this reform phase and it is expected that the President would ordinarily take advantage of such an ad hoc body for technical and other advice as relates to the sector. However, the presence and active participation of this particular Council in sector matters may have gone beyond a Presidential advisory role and runs the risk of so permeating how the sector develops that it can be deemed a formal institution. This is risky because there is no legal basis or sector mandate for this Council beyond an acceptable advisory role to the President. Although many of the participants are known in the sector (CNE Executive Director, Superintendent), there may be some confusion in the sector as to which institution, including the Council, makes the final decisions on sector matters. At a minimum, there is a strong perception that, except for the President, its members affect policy one level above CNE and other institutional inputs. The Council is directly impacting, if not directing, policy priorities and how institutions are to operate.

More clarity as to the intended role of the Council is required. As an advisory or transitional body, the Government needs to decide whether this will be a short- or long-term institution. If to function as an ordinary advisory council to the President, clear boundaries for the responsibilities and mandate for this type of Council need to be provided for public and private onlookers.

[24] The Minister of Finance leads the Council, other members include: the SIE Superintendent, the CNE Executive Director, the CDEEE Administrator, one CDEEE advisor, and two presidential advisors.

2.2.2 The National Energy Commission (CNE)[25]

By law, the CNE has considerable reach throughout Government and is responsible for establishing sector policies and strategies. The CNE is governed by a Directorate or "Commission" where seven Government entities are represented[26]. By all accounts, the CNE is a respected entity and provides sector leadership at present. Legally prescribed meetings take place and requisite coordination among various CNE participants such as the Ministry of Industry and Trade, Technical Secretary of the President and State Secretary of Finance are functional[27]. The Minister of Industry and Trade is the president of CNE's governing Board.

CNE basically serves a role similar to a Ministry of Energy but also serves as the *overseer* of the regulator to the point of being a *collaborator* in regulation. CNE maintains a legal department, and the legal department works with counterparts at other ministries. CNE is anxious to build capacity at the regulatory level and is promulgating a new mentality of anti-fraud, increasing concessions to support renewable energy[28] and to build awareness around the fact that electricity costs are based on the US dollar market.

The perception among private sector and state players is that CNE will be the ultimate authority of the sector and that it is an important institution, led by the right people, but that to date, it has had limited impact on the sector. Onlookers believe that the institution will play a necessary role and there is growing anticipation about the energy policy and planning report expected to be released by CNE in June 2003. There is also a positive view that CNE and SIE are strong collaborators. *This is a collaboration that, although necessarily strong today during the transition stage, should ultimately diminish in need as each institution becomes a stand-alone entity and begins working within its own jurisdictional limits.*

We are concerned that the CNE has too much influence in day-to-day affairs of the sector and particularly in regulatory matters. Among other things, CNE has legal authority to issue Regulations which are legally superior to the Resolutions issued by SIE and which constrain SIE's conduct and decisions; CNE has jurisdiction to review decisions made by SIE for conformance to CNE's Regulations and other legal requirements; and under Article 24 of the July 2001 Law, CNE has the ability to cast a tie-breaking vote if the SIE is deadlocked. This close relationship should be reduced by improving the SIE staff and considering revisions to the July 2001 Law.

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[25] In Spanish, "Comision Nacional de Energia". The CNE initiated this assessment of the electricity sector.

[26] Technical Minister of the President; Minister of Industry and Trade; Minister Finance; Minister of Agriculture; Minister of Environment and Natural Resources; Governor of the Central Bank and Director of the Dominican Institute of Telecommunications.

[27] See Reglamento, Art 21 regarding carrying out President of CNE obligations.

[28] Four concessions for renewable energy (wind) are underway (York-US company, Canadian, Spanish and Norwegian firms). NRECA with USAID support has provided extensive wind mapping of the country. Meeting December 11, 2002, George Reinoso, Executive Director, CNE.

2.2.3 Superintendency of Electricity (SIE)[29]

As a general matter, regulation in the electric sector is technically and economically complex. At present, regulation is further complicated by the newness of the SIE[30] as an entity (at least since its separation from the Ministry of Industry and Trade), competent but inexperienced staff and inordinate and unpredictable political pressures. In addition, the SIE has inherited a number of sector policy and contractual matters that transpired prior to the establishment of the SIE (e.g., contracts with the distribution companies signed prior to SIE operations).

Although created in March 1998, the SIE did not become independent until 2001 under the July 2001 Law. Before then, it operated under the auspices of the Ministry of Industry and Trade. At present, SIE has approximately 125 staff led by the Superintendent. The current Superintendent was confirmed by the Congress approximately four months ago although he has served in his position prior to confirmation. He is known for his strong personality, his unquestionable integrity and his useful working relationship with the President. He is perceived by the other sector players as someone from outside the energy sector who does not necessarily have a close relationship with any of the sector players. Because the regulator needs to be a strong independent entity, this relationship, or lack thereof, is not necessarily a detriment, but may help in establishing SIE's independence. Indeed, most market players expressed a desire for a strong independent Superintendent as long as the technical competency of the Superintendent and SIE staff can be improved.

The SIE is strongly guided by its leadership; although the three commissioners are appointed by the President, the Superintendent carries the public and media voice for the SIE. None of the three commissioners have sector backgrounds[31] and it appears that internal conflicts among the three commissioners may be reflected in how effective the SIE operates. From the point of view of private investors, the current regulatory framework is not overly restrictive or complex in practice, but rather, it is deemed to be uncertain and operating at the final call of the President.

As the base from which the new governance structure of how the sector is regulated, under the leadership of Julio Cross, the SIE has embraced increasing regulatory and market oversight responsibility. *Initially besieged by inexperienced staff and changing leadership, the SIE currently demonstrates an emerging and necessary independence of operation coupled with accountability to business and consumers alike*. As an institution, the SIE continues to be directed based on the personality of individual leadership, however a tendency to institutionalize best practices under current leadership may show hope that over time, the SIE framework will shape up to simply be managed and guided by good leadership.

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[29] In Spanish, "Superintendencia de Electricidad".

[30] The SIE is an independent supervisory agency in charge of monitoring compliance with the law and regulations. It also controls the quality of service and safety of facilities, processes, application for concessions and prepares the information required to set tariffs.

[31] Chapter IV, Art 31 of the July 2001 Law calls for "affiliated professionals…with at least eight (8) years of experience in the energy sector".

2.2.3.1 Superintendent and Commissioners

For the most part, today's institutional leaders have been actively engaged in the electricity sector for decades. However, in the case of the Superintendency, all three commissioners come from non-sector backgrounds, but are nonetheless well versed in "doing business" in the country. The current Superintendent has strong opinions that are beginning to shape the institutional mandate of the SIE. He strongly believes in the independence of SIE and will express his concern when attempts are made to challenge that independence, a trait that may irritate some sector players or Government institutions but which will benefit the sector in the long term. Although not in total agreement with all aspects of the restructuring including some aspects of the capitalization agreements, the Superintendent views his role as protecting the consumer from corporate conduct that is exploiting the sector. He also questions the appropriateness of some Government policies and programs, such as PAEF, that have injected the Government into activities that normally belong to the companies, but demonstrates a willingness to conform to legal obligations and transparent decision-making processes.

Curiously, the other two SIE commissioners are considerably less known to market players.[32] Some market players complain that none of the Commissioners meet the legal requirements[33] to have been appointed, e.g., having eight years experience in the energy sector. Still, the consistent theme is "it is more important to have independent commissioners than fully qualified ones."

The consistent theme is "it is more important to have independent commissioners than fully qualified ones."

The Superintendent himself is aware of his lack of inexperience in the sector and is enthusiastic to receive regulatory assistance from the World Bank and Government in coming months. Because of his lack of sector specific experience, the Superintendent appears to be taking on issues closer to his knowledge base, specifically, accounting and financial issues, private sector contracting and the distribution of financial flows in the sector. These are key issues for the sector, especially at this stage of the transition, and his experience and knowledge with these issues may well benefit the transition in the long term. However, we note that the Superintendent should be careful not exceed his regulatory authority in these matters, and should ensure that other important regulatory matters are not overlooked or neglected based on either his interest or awareness.

2.2.3.2 Independence of the Regulator

The independence of the Superintendency is one of the most important issues to be addressed in sector reform. But, for a combination of reasons, the actual and perceived independence of the SIE is in question. The Superintendent himself expresses a strong desire for independence from the Executive Branch and many sector players express the

[32] Time limitations did not allow us to meet with the other two commissioners.

[33] Art. 31(b) of the July 2001 Law.

same desire. This apparent interference with the independence of SIE, whether this interference is *actually occurring or is only perceived as occurring*, severely undercuts not only the authority of this critical agency, but also the integrity, transparency and predictability of the decision-making process, which in turn increases the risk perceived by the international investment community. Risk increases because a company's market position or its regulatory approvals or its probability of investigation are controlled by political decisions rather than predictable institutional decisions, thereby exposing their investment to higher risk.

We find that some legally mandated responsibilities of SIE actually serve to undermine the independence of the institution:

(1) Under the July 2001 Law the Superintendent of SIE also serves as the President of the Coordinating Organism. *This dual role for the Superintendent is an inherent conflict of interest and should be eliminated*.

(2) Under the July 2001 Law, CNE has a close relationship with the Superintendency. Among other things, CNE issues regulations that have superior legal ranking over the resolutions that SIE issues, meaning that SIE must follow the lead set by CNE. CNE also has authority to review decisions by SIE, although we were told that its review is limited to SIE's application of the law and does not include a review of SIE's fact-finding. This relationship undercuts the independence of SIE because, among other reasons, SIE must follow the regulations issued by CNE which is part of the Executive Branch.

Sector players must begin to realize that legitimate procedures outside preferred politics are in place to participate in and to challenge decisions made by SIE and to use those procedures to obtain a final result. *Government's ongoing commitment to improved information exchange will help to clarify roles and responsibilities of still-new institutions supporting the sector*. In the long run, this will not only benefit the sector by reducing risk and improving predictability of decisions, but it also will benefit them individually by ensuring a more stable market environment that is controlled by transparent decisions rather than political whims.

In addition, we suspect that the concept of regulatory independence is not yet clearly understood and/or embraced by all sector players. Although SIE is independent, that independence does not preclude, for example, the Superintendent from being a team player with other Government agencies, e.g., sharing general policy views and discussions about sector issues, discussing probable initiatives that SIE or other sectors could undertake, etc. This collaborative approach to sector development may currently be perceived to blur the lines of regulatory independence, but is acceptable without compromising the concept of independence

The concept of independence emerges when SIE has a matter pending before it and must make a decision about that matter, e.g., after SIE initiates a rulemaking proceeding, initiates an investigation or receives an application. At that point, informal

communications between the public (including other Government entities) and SIE (the Commissioners and the staff) *must stop*, and all communications should be conducted through open and transparent processes, e.g., public hearings, written filings with SIE, etc. In such instance, *SIE must be careful to prevent--and the public and other Governmental agencies should not seek to engage in--any ex parte*[34] *communications so long as that matter is pending before the Superintendency.* Any effort to influence the decision-making process once the matter is under consideration is improper. However, until that point, SIE, including the Superintendent himself, may engage in team discussions and be a team player with other sector players.

2.2.3.3 Mode of Operation

Partially attributed to the crisis management scenario to which Government has had to respond in recent months, SIE operations have been somewhat *ad hoc* in terms of instituting regular meeting schedules. As the Venezuelan oil crisis calms and resolution of the peso devaluation continues, it will be important for SIE to commence a regular schedule of operation. This will include schedules for internal staff training, inter-agency meetings and meetings as well as a clearly defined and published process for public hearings. The SIE website is not yet online but is expected to be online in coming months. The web page serves as an important mechanism for dissemination of information to the local population and outside investors tracking the progress of reform. As SIE develops, it may consider issuing periodic newsletters and informational updates.

Effort should be made to *include a broader range of public participation into SIE's decision-making processes*. The more the public participates in those processes, the better it will understand the purposes of the restructuring and the way to express its views. Consumer groups and other groups representing coalitions, e.g., industrial, agricultural, financial, commercial coalitions, should be encouraged to participate in SIE proceedings and consideration should be given to conducting some public hearings outside of Santo Domingo.

2.2.3.4 Role/Perception of Role

SIE is not necessarily seen as a "driver of reforms." This view is not necessarily bad for a regulatory institution because regulatory institutions normally are more reactive than proactive to market issues. But sector players understand that SIE is a necessary institution to support the new market order. Its staff capacity requires technical improvement and has been cited for a lack of experience. There is a belief that the SIE will listen to private and public players but that it is not currently capable of resolving any serious matters. *SIE is graced in perception with the knowledge that it is a new institution, at least since it has been separated from the Ministry of Industry and Trade, is still struggling with its fundamental operations and trying to break with its previous*

[34] An "*ex parte* communication" is a communication (orally or otherwise) made by someone other than an SIE employee to an SIE employee, such as a commissioner or office director, outside the designated legal process, about a matter that is pending before SIE, which may influence, or may have the *appearance of influencing*, SIE's decision on that matter.

identity and establish a new identity. However, a strict time line should be established for increasing staff competence and SIE responsiveness to market issues, which will help allay sector concerns about this critical agency.

As noted earlier, the perception is that SIE is engaged in a struggle, partly to ensure its independence, within the sector, e.g., with CNE, with the President/Government and with other market players. Evidence of these conflicts is obvious from articles, news conferences and press headlines. *This perception is not helpful to SIE, and SIE must contain its use of the press to conduct what comes off as grandstanding measures*. This sentiment was conveyed to us by market players on several occasions. Also, the more SIE finds itself headlining in the press, the less confidence market players will have in SIE's integrity and objectivity about market issues.

Although the SIE is mandated to protect customers, it is nonetheless important, especially during this transitional phase of the reforms, that some balance be achieved not only to assure customer protection, but also to provide investors and companies with certainty and legal predictability that their contracts, market actions and operations, if within legal bounds, will be safeguarded.

2.2.3.5 Financing SIE

Pursuant to Article 37 of the July 2001 Law and Articles 45, 49-51 of the Reglamento, the Superintendency has its own funding, to be shared with the CNE. All participants in the interconnected system must pay 1 percent of the value of their purchase or sale transactions in the wholesale market (spot and contract), for either energy or capacity, net of transmission toll payments. Likewise, ETED and electricity suppliers in isolated systems must also pay a 1 percent charge on the value of their sales revenues. For the first four years of application of the Reglamento, 75 percent of the amount collected will be allocated to SIE and 25 percent to the CNE. It was unclear to us whether this funding was adequate for these institutions and whether they were receiving these funds in a timely manner. We consider the funding mechanism extremely important for these institutions to carry out their functions, especially in the case of SIE.

2.2.3.6 SIE Staff Capacity

The Superintendent is aware of the shortcomings of SIE. He seeks staff training, assistance to him, and Government recognition that SIE can enforce the law and Reglamento. In addition to his desire to build his own capacity, he similarly seeks improvements at the staff level on tariffs, contracts, and technical and information matters. *By virtue of the lack of expertise at SIE, the independence of the body is jeopardized; for example, SIE staff commonly rely on CDEEE technical staff and other information/advisory*.

A "Duties Manual" for SIE personnel is cited in the Reglamento, Article 36. We were not provided this document for review but understand that, according to the

Reglamento, it addresses technical and professional requirements for each SIE position. It would be very useful to conduct a thorough review of this manual.

In addition, the SIE has difficulty obtaining information it needs from companies (e.g., Fenosa, AES); a more experienced and professional staff will establish standard filing requirements and information gathering systems that are necessary for regulatory bodies to perform their work. The Superintendent has requested that a Regulatory Work Plan be developed; *SIE staff itself should prepare this plan.*

The Implementing Regulations[35] of the application of the July 2001 Law (the "Reglamento") clearly list a variety of standard regulatory areas in which SIE will play a significant role in regulating the market. Modifications to the Reglamento set forth further processes to be followed by SIE concerning investigations, certifications, linkages, monitoring the spot market, etc. We were unable to review all these processes in their entirety and recommend that a review of the details of these processes be conducted. By most accounts, SIE staff is not prepared to implement its own operation.

2.2.3.7 Process and procedure

The Reglamento addresses both consumer complaints and company complaints[36]. *More process detail that is well publicized with respect to company complaint procedures is suggested.* The processes for hearings and appeals, permits and licenses and concessions are not well publicized and actually appear to vary at this early stage of development. Political factors seem to influence certain priorities of topics. More attention to regulatory processes is expected in the coming months and should be closely monitored.

It would be useful to improve and publish the processes that pertain to SIE as well as other Government agencies that make decisions about the sector, such as CNE. During meetings with different companies, we observed differing impressions and opinions on what was believed to be the requisite processes in place at SIE. *All companies operating in the market should be subject to the same process.* When asked how they receive their information, almost all refer to "word of mouth" of friends and colleagues who work at SIE and CNE. Improved and clear information published regularly, including a working web page for SIE, would alleviate apparent gaps in accurate knowledge.

There are consistent concerns about the lack of decision-making coming out of the SIE to date. Market players appear thus far to be patient, waiting in anticipation for an improved technical capability at SIE. However, it is important that a clear process for decision-making be published by SIE and followed; this would include time schedules for making decisions – whether to extend decision-making time or present final findings. *The Reglamento provides a good "first step" and should be carefully reviewed and understood by staff responsible for implementation at SIE.*

[35] Bylaws of the Application of the General Law of Power 125-01, July 2002
[36] Reglamento, Arts. 37-40.

SIE is responsible for a variety of legally prescribed issues that impact substance and procedure[37]. SIE is to maintain a judicial and internal audit competency.[38] It has investigative (e.g., investigating ownership of power plants[39]), enforcement, consumer protection and contract oversight powers, but the detailed processes for SIE's implementation of these powers is lacking. In its preparation and issuance of resolutions, SIE should have additional procedural clarity. Finally, processes to commence and procedures to assure fair public hearings need to be developed, published and implemented.

An in-depth review of the Reglamento and Modifications should be conducted by SIE staff in order to identify any gaps in prescribed process and/or additional areas that require clarification. It is suggested that SIE prepare a document describing specific processes and time frames for standard regulatory actions (e.g., Establishment of a claim of linkage against a company by any Wholesale Power Market Agent).

2.2.3.8 Appellate Jurisdiction and the Appeals Process

The two Government entities which have decision-making authority and from which an appeal process must be established are CNE and the Superintendency. The Coordinating Organism is a private entity created by the July 2001 Law and is subject to SIE monitoring, so that its decisions are determined by the rules of that organization.[40]

Superintendency. SIE decisions can be appealed to either CNE or the Administrative Law Court following prescribed procedures. Those procedures should be more carefully reviewed to determine the process and standard of review.

The Superintendent has authority, subject to a three year Statute of Limitations, to determine the degree of severity of any infraction or non-compliance of applicable rules, and can determine the amount of the penalty subject to the limits set forth in the July 2001 Law (Article 126). Affected individuals can appeal the decision on sanctions and penalties to the administrative law court of the Dominican Republic (Article 127). In addition, fines generated as a result of sanctions levied are to be earmarked for "special education and professional programs in regulation"[41] *– it will be important to track these funds and monitor how they are channeled for public review.*

As an independent regulatory organization, the decisions of the Superintendency ideally should be appealable to a non-political entity, normally the judiciary. As noted above, Article 127 of the July 2001 Law states that decisions regarding fines and sanctions imposed by the Superintendent are appealable to the Administrative Law Court.

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[37] Reglamento, Art 32, Art 33.
[38] Reglamento, Art 35.
[39] Reglamento, Art 12.
[40] Article 24(d) of the July 2001 Law gives the SIE the power to oversee the behavior of the electricity market. Paragraph (l) of the same article gives the SIE power to resolve conflicts among entities and persons subject to its oversight, which includes wholesale market participants.
[41] Reglamento, Art 11, Par 2.

As is common in countries that follow the Napoleonic Civil Code, the acts of the State conducted under the State's constitutional prerogatives cannot be challenged before the general courts of law. Instead, they must be appealed to a specialized court, the Administrative Law Court ("Tribunal Contencioso-Administrativo"), whose decisions are final.

Article 127 of the July 2001 Law was interpreted by Article 28 of the Modification to Reglamento, in what appears to be an expansion of the appeal rights[42]. Specifically, Article 28 of the Modification amended Article 512 of the Reglamento to specify that any SIE decisions regarding fines and penalties that are contrary to July 2001 Law, the Reglamento, or the regulations issued by the SIE and the CNE, can be appealed not only to the Administrative Law Court but also to CNE. It is unclear to us whether this interpretation of Article 127 of the July 2001 Law is an appropriate interpretation or whether it exceeds that Article by adding an additional forum (CNE) for appeals. Our understanding is that the decisions of the Administrative Law Court would prevail over those of the CNE, as the Administrative Law Court is empowered to rule on any administrative acts of the State. We are not aware of any appeal from a SIE or CNE decision to the Administrative Law Court that would clarify this jurisdictional issue.

Fines and penalties are a small part of the jurisdiction of the Superintendency, but this appears to be the only provision of the July 2001 Law specifying the appeal process. There are no other provisions in the July 2001 Law that specify where decisions of the Superintendent are appealed or what the standard of review would be on appeal. The only applicable provision is Article 11 that allows interested parties whose applications for a concession, permit or authorization, whether granted or rejected, to appeal such decisions to CNE who, in turn, may, if it deems it advisable, take the case to the President of the Republic. Other provisions in other laws appear to allow a right of appeal to the Administrative Law Court, but the interaction or priority of these appeal rights was not immediately apparent.

During meetings with various organizations, however, we were told that CNE considers appeals from the Superintendency and that the standard of review is very limited and applies only to a review of the applicable law. Stated differently, CNE would not overrule any factual findings, but would have authority to review the application of the law to the factual findings. However, as stated above, we were unable to find any clear legal justification for this process or the standard of review, although Decree No. 749-02 (September 19, 2002), Article 512 was cited to us as the basis for the process.

The National Energy Commission. CNE is part of the Executive Branch of Government that is managed by a Board, of which the Minister of Industry and Trade serves as the President. As part of the Executive Branch, it reports to the President of the Republic through the President of the Board. As noted above, the only provision of the July 2001 Law that addresses appeals is Article 11 which provides that interested parties whose applications for a concession, permit or authorization are granted or rejected by the Superintendency, may appeal such decisions to CNE who, in turn, may, if it deems it

[42] Decree No. 749-02 (September 19, 2002).

advisable, take the case to the President of the Republic. The first observation is that the explicit language refers to "interested parties" which would appear to include all parties to the proceeding, and not just the applicant. However, the remaining language of Article 11 seems to limit the appeal rights only to the applicant. If correct in this interpretation, then interested parties who opposed the application would not have any appeal right to CNE if the application were granted.

Aside from the statutory language, we were told, as noted above, that CNE only has authority to review the legal basis of the Superintendency's decisions. This limited review may arise, in part, from its legal authority which extends to issuing regulations, a higher legal authority than the resolutions that the Superintendency is authorized to issue. The authority to issue regulations gives CNE a broader authority to set the legal tone and policy for the sector.

Since CNE is part of the Executive Branch, decisions by CNE normally would not be appealable to the judicial branch. The only remaining appeal would lie with the President of the Republic, which clearly introduces political issues into the review process.

2.2.3.9 Issuing Resolutions

The process for developing resolutions is reasonable and goes through several stages. Draft resolutions are prepared by SIE staff, following "brainstorming" and roundtable discussions among various sector players. The drafts are circulated to market players who are given two days to respond. The perception is that SIE is coordinating this process with CNE every step of the way.

A recent example of the process is the SIE resolution on the exchange rate as the "market value of the load." Companies met with the President and all agreed that a resolution in this regard had to be issued. They also knew that the resolution would establish a different value of the dollar and would therefore impact distribution company contracts that are based in dollars. Nevertheless, because the roundtable was a precursor to preparing the resolution, companies and Government were in agreement on the substance of the resolution.

This resolution is one example where the general public apparently was excluded from the decision-making process and was denied an opportunity to learn how and why this decision was made. The round table discussion appears similar to a form of Advanced Rulemaking and is often used in other countries as a way of exploring issues and opinions before a regulatory agency has completely formulated its opinion. *But this process should be more transparent, as well as the final process of issuing the proposed and final rule, so that the public can participate in and the press can report on these matters.*

Most market participants with whom we met were aware of two pending resolutions that will provide further detail on the Reglamento, addressing frequency and

voltage requirements. One company submitted a letter to SIE seeking less stringent limits and is awaiting reply. Here the process has been one of collaboration with the CO and companies. At this early stage in development of SIE process, we did not hear definite complaints, but heard cautious concern that SIE processes become more defined and clear and action, more immediate.

2.2.3.10 Contract Review

SIE staff needs more capacity in this regard. There is a tendency in the country to disregard the integrity of a contract if deemed to be full of unacceptable terms, often blamed on having been drafted before recent sector changes, (e.g., capitalization) when the sector operated under different market conditions, or under prior administrations. Although SIE should act on abusive contracting or contracts that are deemed to be unreasonable or not prudent by established standards, dismissing contract terms too readily will send the wrong signal to investors and sector entities interested in committing to long-term involvement in the sector.[43]

2.2.3.11 Institutions Operating Under SIE

Office of Consumer Protection for Electric Energy (PROTECOM)[44]

Perhaps one of the more efficient new institutional operations in place is PROTECOM, the consumer complaint division under the SIE. PROTECOM is legally operating under SIE but works independent of SIE, reporting to the Board President of SIE. PROTECOM does use the legal staff of SIE and maintains its own technical staff. Functionally, PROTECOM investigates, monitors and determines whether violations in usage, billing have been committed. It is not responsible for any aspects of ratemaking or addressing the issue of blackouts. This separation of functions is very important. PROTECOM has become a clearinghouse for action on behalf of customers and actually appears to be working at its peak capability. To date it has processed 8,000 cases[45] and returned more than 100 million pesos to customers.

Table 6
PROTECOM Offices

Existing Offices
Santo Domingo
San Cristobal
Puerto Plata
Higuey

Anticipated Offices
San Francisco de Macoris
San Juan de la Maguana
San Pedro de Macoris
La Vega
Santiago
Santo Domingo Este
Mao

According to its literature, at present, PROTECOM maintains four operating offices: Santo Domingo; San Cristobal, Puerto Plata and Higuey.[46] In total, 52 staff are

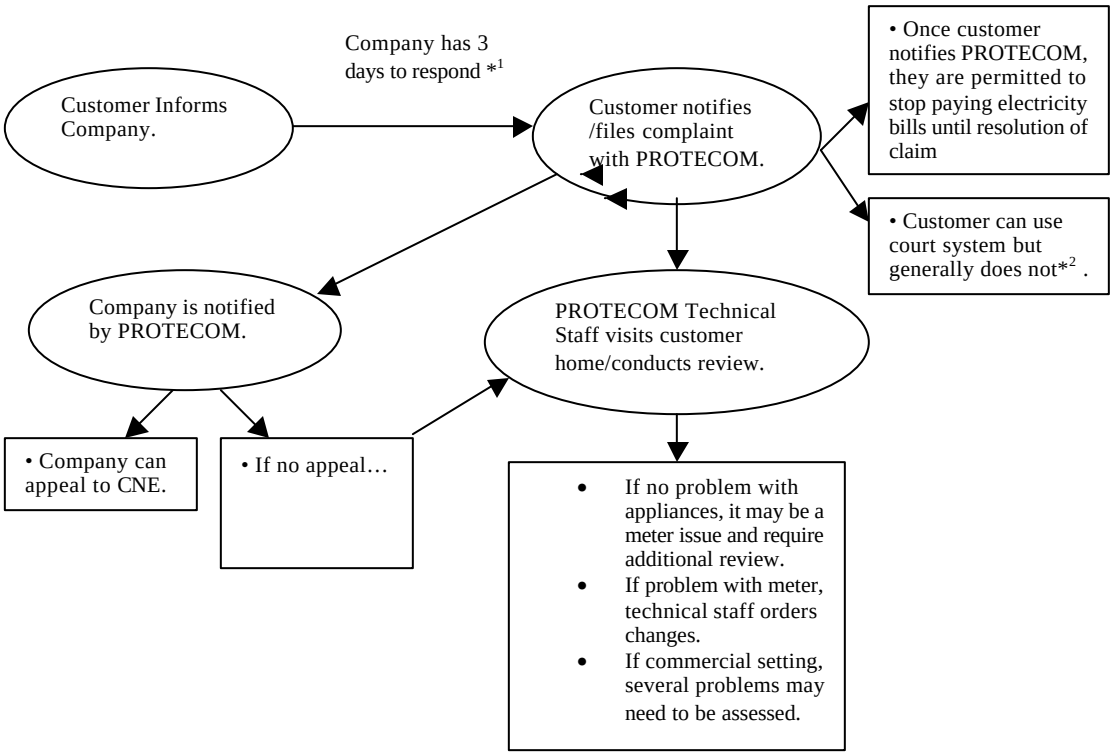
[43] Even though so called "regulatory out" clauses can be used to protect parties from unforeseen regulatory actions, invoking these clauses undermines the intention of the parties to have a long term contract and disrupts the financial arrangements that lenders have put in place.
[44] In Spanish, "Oficina de Proteccion al Consumidor de Energia Electrica"
[45] Of the 8,000 complaints, we are informed that none or very few of the complaints were levied against AES operations.

employed by PROTECOM throughout the country. Approximately 30 staff members comprise the technical team responsible for making visits to customers to assess the technical nature of complaints. Twenty individuals are now receiving training to work at PROTECOM. The Santo Domingo office that the team visited is centrally located, vibrant, well-lit, has ample seating for customers, many chairs were in fact filled, and an enthusiastic staff of 5-6 individuals behind the welcoming desk that accept customer complaints. Staff members promptly provide information to customers and the office is well equipped with furniture, equipment and supplies. Under law, PROTECOM will operate offices in each province, and four offices will function in Santo Domingo. Additional offices can be operated and may be considered as temporary operations by law.[47] SIE is allowed to organize offices and mobile services to respond to community needs; this is a valuable attempt to provide flexibility for consumer services. *It is suggested that whatever offices or mobile operations are in effect be well publicized and that sufficient notice be provided to customers in instances where offices will close or mobile units be relocated.*

> *Filing complaints* - A complaint sheet is filled in and the customer is provided with a hand page describing basic electricity rights. A written statement is signed by the customer and assisting inspector that indicates that the services provided, by SIE, were free and that if any payment or gift is offered, a penalty can be levied.[48] It invites signatories to write to the Department of Prevention of Corruption if necessary. Information is also available on how to read a meter, tariff rates, etc.

[46] It appears that three offices are actually fully operational.
[47] Reglamento, Arts. 37-39.
[48] A list of penalties that can be levied against violators of the statute is provided, "Levantamiento de Cargos".

Diagram 2
Process for Customer Filing a Billing Complaint



*footnote 1- According to PROTECOM officials, the distribution company generally takes longer than 3 days to respond,
*footnote 2- Appeals are taken at the Administrative Court (July 2001 Law, Art 127). Judges have been noted to issue favorable decisions for customers.

Meters - At present, there are 4-5 types of meters used to monitor the network; considerable complaints have been received on the Schlumberger meter used by Fenosa. If the distribution company is found to have engaged in fraud, the company will pay PROTECOM. Under the July 2001 Law, where the consumer has committed fraud, 20 percent of its penalty will go to PROTECOM, 70 percent to the distribution company and 10 percent for the development of renewable energy[49]. Cursory information provided to us indicated that 25 percent of 417 meters that were checked were faulty—the Edesur meters had 85 errors and the AES meters had 21 errors, almost always in favor of the distribution company. Anecdotally and statistically, AES is found to be operating at higher compliance with the Reglamento than Fenosa. There is strong belief that most meters used by Fenosa, newly installed, have been "set" to register up to 30 percent beyond actual consumption; representatives from Schlumberger were said to have visited the country to address this matter. Although Protecom found some errors in AES meters, Protecom believes that those errors were not attributable to the meters being "set" to register higher than actual consumption.

[49] Title VIII, Art 125, Par IV, July 2001 Law.

Billing- There are increasing complaints regarding billing cycles – customers are bringing in bills that reflect 34-37 billing days in a month cycle; in some cases, customers have been billed up to 400 days per year! Customers are entitled to receive ten times the value of overpayment (e.g., if billed for 32 days and should be 31, the value of the one day payment times ten.) Under law, where customers do not pay, their service can be shut off after one month, forcing people to first pay the incorrect bill and to then seek remedy.

Arbitration Commission[50]- the Commission is not yet in effect; it is important that the Commission be established and that its mandate is clearly articulated in order to establish an immediate trust in its status and decision making. The Commission will be used when the first rate review takes place and when/if there are disagreements between the distribution companies and the SIE. The Commission will function under the auspices of the Superintendency and initial processes are prescribed in the Reglamento. *However, considerable more detail for how the Commission will operate will be necessary*. In the current sector climate, by company accounts, effective operation of this Commission will be welcome; the prospect of international arbitration lacks appeal due to time, money and the negative publicity a company will receive.

2.2.4 Coordinating Organism (CO)[51]

In general, and despite the slowness of the process of institutional development, the wholesale market appears to be working reasonably well from an operational perspective, although not from a financial one. The CO has been in existence for more than two years and is cited as operating in a "very professional" and transparent manner.[52] Its work is conducted through the Coordination Council; the Reglamento and Modification specify composition, operations and processes. It has statutory power to issue norms about the operation of the market and seems capable of executing its mission with a high degree of transparency.[53] In the year 2001, the CO issued internal procedures for the preparation of periodic operational reports concerning: the settlement of commercial transactions among market participants; the settlement of capacity adjustment transactions; and updates of transmission loss factors across system nodes. These reports

> During the year 2001, the CO conducted preliminary studies for the implementation of a data capture system and certified the measurement equipment installed in 56 percent (163) of the grid's interconnection points. We have no information about the progress of this task during 2002, but we were informed that measurement equipment is substantially lacking at the interconnection of EGEHID's hydro facilities with the grid. This is apparently related to the inability to compute transmission congestion costs as required by SIE-17-2001.

[50] See, Reglamento, Chapter II, Arts. 130-139
[51] In Spanish, [51] Organismo Coordinador del Sistema Eléctrico Interconectado de la República Dominicana.
[52] The CO website is one of the most comprehensive sites of this nature the authors have seen in terms of the range and detail of the information provided therein. For instance, the site provides the current merit order, hourly marginal costs, and annual financial flows among participants.
[53] See www.oc.org.do.

are posted in the CO's website and are hence public information. We have reviewed several reports; they constitute an important and commendable aspect of the CO's development, as they contribute to the transparency needed by market participants, the regulator, the Government, and other stakeholders to ensure that the market is operating without distortions in favor of any participants. The CO also implemented several information systems for dispatch and transmission system control,[54] and it has organized educational activities for sector participants.[55]

The main problem that the CO is experiencing is an overly slow process of consolidating its legal, financial and governance structures. *For the short term the CO budget has been approved and its technical staff is recognized as highly competent.* No procedures for the calculation and collection of participant charges (for the financing of the CO's costs) appear to yet to be in place,[56] and by-laws for the governance of the CO are still lacking.[57] The intended restructuring of the CO Board has not been implemented because, among other reasons, CDEEE has not created the corporations for ETED and EDEHID.

At present, private-sector participants are concerned about Government entities dominating the CO governing board. As illustrated below, under both the current structure and the structure mandated by the July 2001 Law, the composition of the CO Governing Board is heavily weighted towards Government-owned companies.

Table 7
Structure of the Coordinating Organism Council

No. of Representatives	Current Structure	Structure under July 2001 Law
1	Private Generation	Private Generation
1	Capitalized Generation Companies	State Hydro Company
1	State Transmission Company	State Transmission Company
1	Distribution Companies	Distribution Companies

[54] Currently, the system used for the CO's operational forecasts is MOPERD, developed by Synex, a well-known Chilean consultancy (OC, 2002b: 14). In addition, the CO implemented the STARNET program for short- and medium-term dispatch. This program was developed by ICADE, an internationally recognized Spanish engineering school in matters of electrical system planning and dispatch (Organismo Coordinador del Sistema Eléctrico Interconectado de la República Dominicana, *Memoria Anual y Estadísticas de Operación 2001*, p.19).
[55] (OC, 2002).
[56] Article 54 of the Reglamento specifies the following financing principles: the CO will be financed by generators (including any self-generators selling surpluses into the market), distributors, EGEHID, and ETED. Charges will be based on relative participation in total value of market transactions.
[57] See section 1 of the report for a description of the legal provisions concerning CO governance. According to some private company executives, , gave to USAID. But this represents the private generators in the CO's governing board, the delay is caused by the fact that the transmission and generation subsidiaries of CDEEE have not yet been legally constituted, so they lack legal representatives for the governing board.

Under the July 2001 Law, the Board, which has the decision-making power for the CO, is composed of one representative from each of the following sectors: private generation, the state hydro company, the state transmission company and the distribution companies. The Government owns approximately 50 percent of the distribution companies, meaning that the Government's interest in the Board, compared to the private sector companies, is heavily weighted by this composition. If this structure is to be changed, an amendment to the July 2001 Law would have to be enacted.

There is some concern expressed by public and private market players, that the CO may provide opportunity for internal collusion among its members. We did not find any direct evidence or hear of such activity but the fact that this concern is being expressed reveals a perception about the CO and that it will benefit from educating the public about its functions.

We note that the Superintendent of SIE presides over the CO as its President – *this should not be allowed*. The Superintendent can serve in a lesser role, such as non-participatory attendance at CO meetings. Another concern is that the July 2001 Law is silent on CDEEE's obligation to adhere to CO decisions. Although CDEEE is a market player, it can also be construed as an instrument of the Government. Some provision should be made to clarify that CDEEE's role in the CO is the same as other private entities.

With regard to transparency and financial sustainability of the market, however, a major issue regarding the CO's ability to discharge its duties is the fact that the "commercial information system" required by Title IX, Chapter V of the Reglamento to ensure appropriate settlement of transactions, has not yet been fully implemented. The commercial information system required by the Reglamento[58] should be installed and the CO should conclude its studies if not already done so on the installation of a central data collection system. Installation of both systems will ensure proper settlement of market transactions.

According to the CDEEE, US$1 million worth of transmission congestion costs per month are at present being charged to the CDEEE by default, as the CO lacks sufficient information to charge them to other participants with better measurement equipment. This obviously impacts both the degree of transparency in the system and the

[58] These provisions of the Reglamento require the installation, at every point of interconnection of generators and distributors with the transmission system, of equipment to measure active energy flows, reactive energy flows, and voltage levels over three-phase connectors (to record voltage fluctuations). Every generator or distributor connecting to the grid at a specific interconnection point is responsible for the installation of the measurement equipment, in accordance with the standards defined in the previously referenced provisions of the Reglamento, and any further standards defined by the CO. The generator or distributor must also arrange for access to a telecommunications network capable of transmitting the measured data to the CO. The communications network can be the fixed-line telephone network or other networks per agreement between the participant and the CO.

industry's financial sustainability, since CDEEE is already very stretched financially due to its PPA-related burden.[59]

2.3 STATUTORY INSTITUTIONS SUPPORTING SPECIFIC SECTOR PROGRAMS

2.3.1 Blackout Reduction Program (PRA)[60]

Basic Tenets of the PRA[1]
18 hours weekday service
24 hour service on weekends
5 hours paid by distribution company

As part of the Global Sustainability Agreement, the Government established in 2001 a 2-year Blackout Reduction Program (PRA)[61] to provide subsidized electrical energy to low-income neighborhoods on a transitory basis.[62] PRA does not address medium and large voltage users, public lighting or Government agencies. Begun on a pilot basis in November 2001, the program was expanded in September 2002 after severe rioting in Summer 2002 which left several people dead from confrontations with the police.[63] The PRA ensures that up to 18 hours of electricity (24 hours during weekends) are made available in selected low-income neighborhoods[64] by paying for 13 hours out of a RD$100m budget earmarked by the Government for 2002. [65] The distributor provides the first five hours of supply. In addition, the PRA works with community leaders and merchants to establish a bill collection system and to educate the community about paying for electricity. Collected amounts are used to pay for the energy delivered (i.e., to recover some of the cost of the subsidy) and to invest in upgrading local distribution facilities, including legalizing illegal connections and meter installation. The budgeted

[59] Hence we have a vicious cycle of making CDEEE the "payer of last resort" which limits its ability to upgrade the measurement equipment and exacerbates the congestion charging problem.
[60] In Spanish, "Programa Nacional de Reduccion de Apagones ", see Presidential Decree 1080-01.
[61] The first significant crisis took place in July 2001 and the second in September 2002 basically due to the fact that the distribution companies only supplied that power for which they received payment. The Government announced that 20 hours service would be provided to these families in July 2002.
[62] Presidential Decree 1080-01, dated November 3, 2001.
[63] Economist Intelligence Unit.
[64] A total of 700,000 households have been identified in the country for PRA coverage. By way of comparison, there are about 1m residential customers with meters (i.e., non-PRA) in the country.
[65] For communities that have not signed an agreement, PRA includes 14 hours of daily supply M-F and 18 hours daily supply weekends for communities.

subsidy amount in 2003 is RD$80m per month, as the program is to be phased out at the end of 2003.

PRA is an important transition program; it is important that PRA not become institutionalized, but rather, serve as an impetus to remedy the problem of blackouts. PRA is implemented technically and administratively under the Social Cabinet but actually reports to the CNE Board and SIE. Payments received under PRA by the distribution companies are kept in a special account. Technical experts of CDEEE conduct technical audits to confirm payments due to the PRA. CDEEE technicians visit the regions to read meters and conduct the audits each month. PRA is audited by the Comptroller General. It is intended that the program will expand coverage and increase service to 24 hours everyday. However, we are informed that 24 hour service under PRA depends on the financial and technical capability of Government. PRA currently employs 70 staff including supervisors in the barrios. Fifteen staff members are based in Santo Domingo in addition to eight part-time workers responsible for computer data entry. These jobs are to become full time; weekly staff meetings are conducted each Monday.

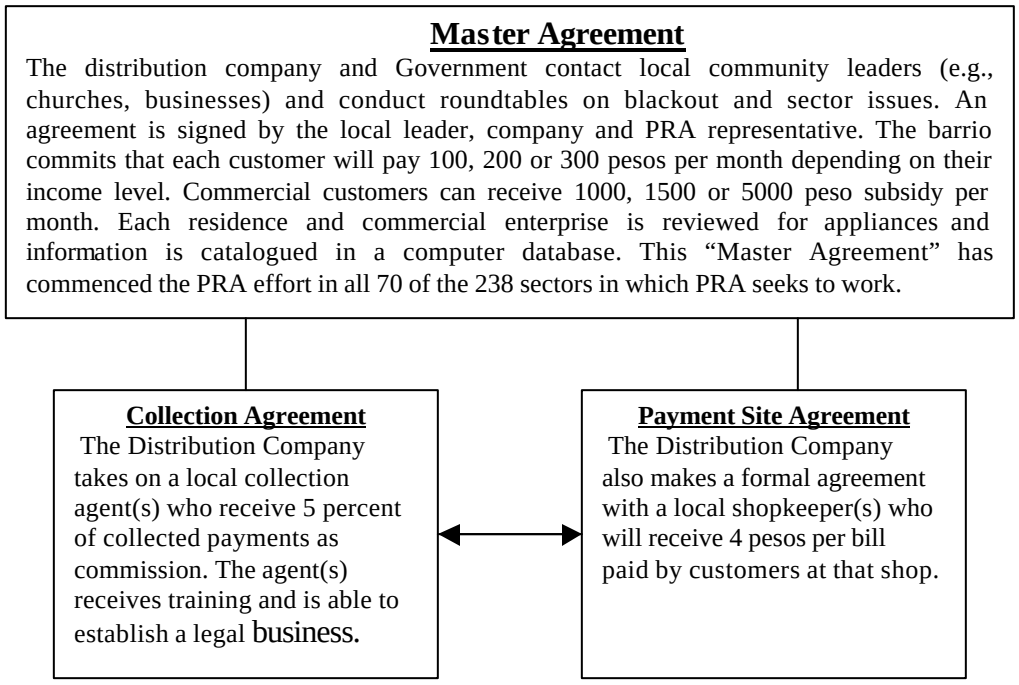
PRA targets 700,000 families identified as not having paid their bills but also as not receiving adequate service. At this stage in the program, 238,000 families are participating in PRA. The program seeks to operate in 238 sectors but is presently operating in 70.

In *Los Mulos* some simple technical fixes may result in improved electricity service. In collaboration with CDEEE and AES, NRECA will maintain a $4.7 million project to rebuild power connections, transformers and necessary materials impacting 16,000 households - 80,000 people. In 2000, 70 people were killed due to bad electricity connections. This barrio often receives 5 hours daily service, not the 18 hours intended by PRA. It is reported that despite the installation of many new power lines, inadequate poles placed 2 feet underground instead of 4, resulted in non-working lines. This 5-7 year program brings together 57 local organizations and may provide a solution to increase service as well as build company-community collaboration to improve access and safety.

PRA Implementation Process

Selection of barrios for PRA participation was based on a "poverty map" of the country as well as technical criteria. Individual income levels are very poor. Although indications are that selected barrios meet program criteria, it was noted that certain barrios appear to have been given priority selection for immediate participation based on political pressure.

Diagram 3
PRA Implementation Process



By working with community leaders, PRA seeks to increase confidence of the poor in distribution companies and to balance the fiscal crisis for companies suffering certain non-payment.[66] Importantly, much of the collected money stays in the barrios through a strictly controlled process of investment in distribution network upgrades.[67]

2.3.2 Anti-Fraud Program (PAEF)[68]

The Anti-Fraud Unit was established as part of the National Police in October 2002 to enforce collections and eliminate illegal connections. The program also maintains a public awareness scope that addresses energy use, conservation and how to prevent fraud. PAEF maintains its headquarters in Santo Domingo and has five regional offices. General Rafael Guerrero Peralta, Director of the Unit, is also the Executive Director of the Commission for the Reform and Modernization of the National Police. PAEF meets monthly with the SIE and CNE and ultimately reports to the Attorney General.

[66] Fenosa's collections in poor communities rose from 5 percent to 23 percent in 2001.
[67] Although we did not receive any concrete statistics on collection rates under this program, we were told that collection rates in one district improved from $700/month to $30,000/month over a period of three months.
[68] In Spanish, "Programa Nacional de Apoyo Eliminacion Fraude Electrico".

PAEF is staffed with 116 individuals, 70 percent of who have street police experience. This new operation has clear objectives, is well managed, is collaborative and is operating in what appears to be an objective manner. In theory this Government program is reasonable and seeks to assist the sector in increasing collections, deterring and prosecuting fraud, and improving the quality of distribution networks. The obvious concern with a unit that is vested with police powers is the concern with which police participation in the sector may be abused and/or feared.

Strategy

For the time being, the Unit is specifically targeting mid to high-end customers with initial emphasis on commercial customers; 80 percent of fraud found by PAEF to date was carried by commercial customers.[69] This strategy seeks not to harm the poor without first addressing those more able to pay. PAEF leadership informs us that PAEF is not concerned about the number of fraud findings, but rather, that illegal connections be reduced and payments increased.

A Typical PAEF Case Scenario

1. The Unit obtains information from a source about an illegal connection or abuse.
2. A Squad, consisting of two technicians from the affected distribution company, two police officers and one public attorney, is sent to the site to conduct a technical review that includes assessing the loads at the site, checking the meter, and possibly questioning witnesses.
3. If there is evidence of meter tampering, photos are taken, as potential evidence in a criminal action.
4. If the owner is available, the Squad notifies the owner and invites the owner to be present for the review. The Squad can access the site *without notice* to the occupants, if, *prior to entry*, the attorney signs an "Act of Inspection" asserting that entry to the site was made and finds *probable cause* of a violation.
5. The powers of the police officers include cutting the power lines and arrest authority.
6. A final report of the investigation is prepared and referred to the Justice Department as appropriate.

Process

PAEF receives information about violations from a variety of sources although it appears that the distribution companies provide most of the "tips." Interestingly, of the 4000 "tips" received to date from distribution companies, only 10 percent have resulted in findings of fraud. Some general neighborhood sweeps, generally conducted in "problem areas", have also been conducted without notice or specific fraud targets.

Squads (sometimes referred to as "brigades") of 2-3 police officers, 1-2 technical experts who are usually distribution company employees, and one attorney from the Office of the Public Prosecutor are sent to the site to detect and prosecute fraudulent electrical connections and meter tampering. Squad members are provided with identification cards and go through a strict selection process. Prior to entering an establishment or dwelling, the attorney present must sign an "Act of Inspection", finding that "probable cause" of a violation exists, and indicating that entry was made. In cases where "probable cause" is found, we are told that very thorough documentation of the violation is necessary to provide a "stand alone" case in the event of a later court review.

[69] 418 investigations have been conducted to date.

The Squads commenced work on November 25, 2002. There are currently 28 Squad members; 12 more police officers are to be moved to the Unit. In its first 12 days of operation, the Unit received approximately 4000 tips that include some residential units but mostly commercial establishments.[70] No prosecutions have been initiated, because the program is still being established and public attorneys are in the process of being assigned to accompany the Squad Units.

The Unit is establishing a database to monitor abuses. Collection of the data is step by step from various sources and only address fraud. The stated intention of the Unit is that customers take action before a court filing has to be made. Use of penalties is deemed as the first and hopefully last step in the enforcement process. There have not yet been any arrests but this authority is included in the scope of the Unit.

Issues

Due process - Overall due process including procedural safeguards are critical in such a program in order to avoid abuses of police power, build credibility and to prevent retaliation by the distribution companies against critics of those companies[71]. The program described to us appears, at present, to include reasonable safeguards, including the presence of a public attorney from the Justice Department in order to ensure that proper processes are followed. *However, the possibility for abuse of this police approach and the risk of selective prosecution[72] are significant.* Notice provisions and customer feedback need to be closely monitored. The program needs to be considered as *temporary* and should be aligned with indicators of success over a finite period of time to assure appropriate results and minimize levels of fear/anxiety that are generally attached to these types of programs.

> Prior to entering a dwelling or establishment, the public attorney is required to make a finding of "*probable cause*". Presumably, this finding can be challenged in court as being unreasonable; but the only value of such a finding is if evidence obtained from entering the dwelling is excluded, i.e., the price that law enforcement must pay for unreasonable findings and aggressive behavior.

Financing the Unit – For at least its initial operating period (2 months), Unit financing, based on the Government's request, has been covered by the distribution companies in the form of lending approximately US$200,000-$300,000. As the loan is paid off, which apparently began in December 2002 or early January 2003, the funding for the Unit will come from penalties that the Unit collects from violators (see, for example, Articles 124 and 125 of the July

[70] By comparison, the distribution companies estimate there are approximately 200,000 violations.

[71] We were told that two families or relatives of families that have been critical of reform in the electric utility sector and the distribution companies were "caught" by the police units. Apparently in both cases, the individuals were exonerated, but only after the severe inconvenience of having to defend themselves and challenge the police investigation.

[72] The General staunchly asserted that as a leader, he is independent of the distribution companies and will not be an instrument of any institution or individual.

2001 Law). The Anti-Fraud Unit will retain 67 percent of the penalties that it collects. It is unclear how these funds will be channeled to the Anti-Fraud Unit. *If the funds from the penalties go directly to the Anti-Fraud Unit, we are concerned that this method of funding will provide a profit incentive for the Unit to promote its function, as opposed to social and economic reform incentives to pursue its mandate.*

The standard process for funding such a Unit would be to have the penalties paid into the Ministry of Finance. The Unit would submit an annual budget in accordance with the normal budgetary process, and refer to the penalties it has collected as partial justification for its future funding. *Money collected from penalties should never pass directly to the Anti-Fraud Unit; budgetary and review processes are critical to provide the proper incentives.*

Coordination with Protecom– If a customer challenges a bill and files a complaint with Protecom, that customer is entitled not to pay charges while the complaint is under review. It is possible that such customers may be identified, either intentionally or accidentally by the distribution company. *We suggest that the program be monitored, especially on referrals from the distribution companies, to determine whether such individuals are being targeted as suspects.* Since the Unit has arrest authority, and apparently can make arrests without a warrant issued by an objective third party who can determine whether an arrest meets certain legal criteria, this authority has the potential of harassing innocent individuals and establishments. *At a minimum, an objective third party reviewing a request for an arrest warrant, can determine whether a protest is pending at Protecom.*

Arrest Authority - The Squad police have the typical authority to make an arrest if it views the crime in progress. A fundamental issue to review is whether, for example, the mere existence of connected power lines to a dwelling is so obvious a crime as to justify the use of the arrest authority, i.e., is a crime really occurring, and if the crime is occurring, who is committing the crime and who should be arrested (the landlord, the tenant, if a corporation, which corporate officer)? The fact is that the PAEF Unit does not know, and this ambiguity is precisely the reason why an objective third party with authority to issue an arrest warrant is imposed between the arresting officer and the public, i.e., so that an objective review of the facts can be made before the individual is forced to defend himself.[73]

[73] On the other hand, if the Squad actually views the conduct of an illegal connection being made or a meter being tampered with, then the suspect is readily apparent because the crime is in progress.

Judicial relationship – Because of the newness of the Unit, it is premature to assess the role of the courts in how the work of the Unit is progressing. It will be important to monitor the number of cases that are brought for judicial review and to assess whether any judicial burden is presented. It may also be important, depending on the level of cases actually brought to court, that technical capability at the court level vis-à-vis the electricity sector be increased.

Monitoring results – it is not possible to describe in economic terms the utility of the work of the Unit. This is a factor that should begin to be quantified and published on a regular basis with reference to type of user (residential, commercial, industrial), region and resolution.

2.3.3 Rural Electrification Plan (PNER)[74]

The PNER is intended to subsidize the connection of areas not yet connected to the grid or lacking electricity supply. Plans have been developed for the North, South, East and border with Haiti. The plan is expected to provide electricity services to approximately 420,000 rural consumers. Only a portion of financing is expected via lending from Spain to cover the estimated program cost of $USD60 million.

2.3.4 Pact for Stabilization and Economic Development[75]

An informal but potentially important initiative has been commenced by an array of Government, political groups, sector entities, the Catholic and other Christian Churches and different sectors of society in a volunteer effort to address vital national interests such as the course of the July 2001 Law in the National Congress. The press reports that today more than ever, various segments of Dominican society need to be united in their proposals that impact economic affairs. The Government has and is inviting various groups to participate in this pact and to contribute to its content in order to provide a solid basis from which to discuss issues with political forces, state authorities and civil society organizations.

The Economic Cabinet and members of the country's main business organization, the National Council of Private Enterprises (CONEP)[76] constitute a monitoring commission (Comision de Seguimiento) to guarantee implementation of this Pact[77]. Because of its issuance most recently, December 9, 2002, we were unable to receive information beyond news articles.

2.4 TRADE UNIONS/WORKERS

[74] We were given the four rural electrification plans.
[75] See Listin Diario. Seccion La Republica, p. 14 - Wednesday, December 11, 2002
[76] In Spanish, "Consejo Nacional de la Empresa Privada".
[77] Signatories to the pact are Hipolito Mejia, President; Marino Ginebra, President of CONEP in the representation of sector enterprise; and Monsenior Agripino Nunez Collado in representation of the Catholic Church.

During this assessment, the issue of trade unions was not once raised. Historic accounts of the influence of the unions seem to no longer impact sector operations to the extent they had. The fact that unions were not mentioned by any public or private player is unfortunate but not surprising. The transitional issues of reform have been all consuming for each institutional player to the point that certain fundamental issues – like workers in the sector – are overlooked. It will be useful for Government to conduct an assessment of worker issues.[78]

2.5 GOVERNMENT INSTITUTIONS IMPACTING ELECTRICITY SECTOR[79]

Office of the President – Presidential influence is apparent at all levels of sector operation. This is not uncommon during sector transition and in time, as institutions gain more experience and the public becomes more aware of the new market organization and how it operates, this influence should naturally be reduced.

Ministry of Finance – ultimately responsible for all State budget funds allocated to support sector operations as well as social programs relevant to sector reform. As the Chairman of the CNE Council, the Minister presides over that Council and has significant input into the policy direction that CNE takes. Since CNE issues the regulations that SIE must follow, this policy guidance directly influences SIE.

2.6 MINISTRY OF INDUSTRY AND TRADE (MIT)[80]

The Minister of Industry and Trade presides over the National Energy Commission (CNE). For its first three years of operation, the SIE existed under the MIT[81]. At that time, the Ministry had a more dynamic relationship with SIE. Following the July 2001 Law, the SIE became an independent agency and the MIT role has lessened. For example, complaints concerning industrial customers were formerly filed at the MIT and are now filed with SIE. However, the MIT continues a relationship with SIE: whenever an investor is interested in a sector operation, MIT sends relevant documentation to SIE for review The MIT also remains engaged in sector issues via the CNE Council as one of the seven ministries represented.

Under the auspices of the MIT, an energy efficiency campaign,[82] initially targeting residential users but being extended to industrial and business consumers, is being launched. This includes collaboration with the Ministry of Education for a school education program. We are informed that to date, results at the commercial and industrial level have not yet been apparent. Funding for the program is made possible under the Hydrocarbon Law, which allows funds received from the taxes of fuel oil and gasoline to

[78] The World Bank is conducting a social impact assessment; it is unclear whether this will address sector worker issues.
[79] Time did not permit meetings with Ministry of Labor, Ministry of Natural Resources and Environment; information received is based on conversations with sector representatives.
[80] In Spanish, "Secretaria de Industria y Comercio (SIC)"
[81] The MIT was formerly responsible for developing and implementing electricity sector policy, planning sector development and preparing and coordinating rules and regulations.
[82] "Programa de Energia no Convencional" (Program of Non-Conventional Energy).

be placed in a national fund that is dedicated to support energy efficiency and renewable energy programs.

Energy efficiency is an important tool to reduce costs for producers and consumers, and MIT's emphasis in this regard is well-placed. At present, there is at least $12 million allocated for MIT efficiency programs, and these programs appear to emphasize public information, although certain technical support is also provided. In contrast, it may be useful in the short term to shift some of these funds to poorer communities for ensure affordable and reliable electricity and to assure that necessary improvements are timely funded. *In light of limited funding available at this time the allocation of these funds between these two objectives should be reviewed so as to improve the coordination of such funds. . Another suggestion would be to solicit donor funding for the work of the Ministry and to shift available State funds for more direct technical support to the sector.*

2.7 SOCIAL CABINET[83]

The Program for the Reduction of Blackouts is funded by the "Social Cabinet". In theory, the program and its manager are based here. But, in practice all operations are conducted out of the CNE offices and the PRA director reports to the CNE Council, the Executive Director of CNE as well as to the Social Cabinet. At least in the short to mid term, it may be useful to have PRA report to only one entity. We believe that the Social Cabinet may have an increasing role as sector reform continues. In specific, oversight and monitoring of electricity access and affordability for the poor, business and job issues related to sector reform and as promoter of a new social compact among sector players that assures consumer participation.

2.8 DOMINICAN CORPORATION OF STATE ELECTRIC COMPANIES (CDEEE)

It is important to review the role of CDEEE as both a market player and Government institution as it continues to play a role in regulation of the market – this dual role is a conflict of interest and needs to stop. CDEEE is taking on an increasing implementation role in the execution of transmission and market distribution. CDEEE does provide strategic planning leadership for the sector although CNE appears to be gradually taking over this effort.

Reorganization of CDEEE continues to be underway. As is usually the case with state company transformations, it is difficult to release duties and powers, especially since it remains as the central technical and financial base for sector operation. For example,

- Much of the sector information that ordinarily would be kept at a ministry level, is housed at CDEEE. In time, this information may become a function of CNE; already, FONPER has begun to establish its information stronghold on sector materials. It is important that an institutional base where sector history can be

[83] In Spanish, "Cabinete Social".

maintained be established and, other than for confidential documents, be accessible to market players.

- Formerly, CDE could not be foreclosed: under the July 2001 Law, if CDEEE becomes bankrupt, the State must provide a sovereign pledge. CDE has always been open to labor suits; CDEEE is as well.

- CDEEE still has influence and "right of first refusal" advantage and/or "first move" attributed to insider knowledge. Most glaring of this is its recent role in the renegotiation of PPAs. CDE lawyers and technical staff, now part of CDEEE legal and technical staff, were part of the initial and renegotiating process that inevitably translates into access to important market information and opinions likely revealed during the negotiation process.

- In addition, because of its historic role in the sector, CDEEE staff and records reflect important knowledge on water supply, oil pricing, contract negotiations, that can benefit their position as a market player. The perception is that CDEEE has very strong technical capabilities but lacks the commercial acumen to be operating as a true market player. This poses difficulty for competing companies doing business on commercial basis where they believe CDEEE is able to sidestep standard commercial practices by virtue of its technical breadth and Government depth. The fact is that most state companies are initially placed in a favorable position as the market transitions toward increased private investment. The state companies have information, contacts, and funding that new market entrants do not. However, the key for CDEEE's survival and Government's ability to sustain sector reform will be the transition of CDEEE from a State company to a private or para-statal market player.

Differences of opinion exist on sovereignty and privatization of remaining state aspects of the sector. *The looming issue here is that if at least one presumption of state control is to safeguard social aspects of reform and to assure that all sectors of society have accessible electricity, then the Government is failing.*. There is a perception that CDEEE maintains a special place in the hierarchy of market players. Such perception is not without justification because, among other things, of its government ownership, its relationship to the Presidential Commission for the Sustainability of Electricity Reform, its signature authority and authority to assign power purchase agreements, and its apparent access to non-public market information. Because of the transitional moment in which the sector is operating, this is not an uncommon scenario for a former State company. However, this situation makes it even more important for Government to publicize and practically assure that CDEEE has no special privileges or access to information any more than any other market player. *The perception of special privileges should be eliminated*. In some countries, a change of company name to a less "State sounding" name begins an important process of public

The looming issue here is that if at least one presumption of state control is to safeguard social aspects of reform and to assure that all sectors of society have accessible electricity, then the Government is failing.

recognition that the company is truly transitioning. Similarly, more public announcements about the reduced role of Government and its interactions with CDEEE may be of use to promote transparent transition.

2.9 THE CAPITALIZED COMPANIES

The capitalization contracts with the distribution companies were signed prior to the existence of a regulatory framework and an independent regulator. According to some Government officials, the terms of these contracts are vulnerable to criticism. Others feel strongly that the Government plays an "inferior and asymmetric" role in the public-private partnership governed by the capitalization contracts. Although all officials expressed strong support for the July 2001 Law and the Reglamento, they emphasized that the presumed second-class status of the Government partner, and the absence of performance contracts with the strategic partners in the capitalized companies, are major causes of unsustainability in the sector. In furtherance of their views, some senior officials argued that:

(i) The negotiation process that led to the capitalization contracts failed to provide adequately for rural electrification, which affects approximately one-fourth of the country's population (two million people). The high rate of return permitted in the contracts, 20 percent or greater, or equivalent to payback times of four to five years, was supposed to cover the cost for the expansion of service to rural populations. The high rate of return was also designed to provide an incentive to overcome a legacy of inadequate investment in distribution infrastructure—the so-called "transition cost" of reform. However, neither of these outcomes have been achieved, in part for reasons outside anybody's control such as the 1999-2000 world oil price rise.

(ii) The management fee of "2.75 percent of net sales" has not led to a transfer of technology and technical capability as specified in the management contract.

The role of the Government entity in the capitalized contracts is a major issue requiring resolution. However, the capitalization process was *designed* to create an asymmetrical relationship where the Government would become a passive or non-managerial shareholder. The issue is the nature and extent of the asymmetry. We do not suggest that this be carried to the point where the Government entity is denied the same distribution of profits as the strategic or private shareholder. At the same time, it is clear that the previous Government made numerous concessions that cannot now be attributed to or now "blamed" on the strategic partners in the capitalized companies.

The capitalization contracts did not specify rural electrification as an explicit obligation of the distributors, nor did the contracts state that the high rates of return embedded in the rates were designed to defray the costs of delivering services to low-income populations. Whether rural electrification constituted an implicit obligation is difficult to establish, because the officials we spoke with came in with the new Administration.

As for the management contracts and by-laws affecting Edeeste, Edenorte, Edesur, Itabo and Haina (see Box below), all appear to be standardized and contain the same provisions. In particular, they specify a fee of up to 2.75 percent of net sales in exchange for technology transfer and technical assistance. The term "net sales" is ambiguous. The factor of 2.75 percent is presumed to apply to amounts invoiced, rather than amounts actually collected.[84]

Table 8
Governance of the Capitalized Companies

Current Company By-laws

- A strategic investor cannot purchase more than 50 percent of shares (Art.13, para. I) The State holds 49.9 percent of Class A shares with 0.1 percent held by the employees, and the distribution companies hold 50 percent of class B shares.
- 4 out of 5 members of Board of Directors appointed by the strategic investor (Art.33), with one member appointed by the Government.
- Any loans, association contracts, or financial transfers of any kind with affiliated entities require unanimous approval of Board of Directors (Art. 38)
- Each class of shareholders has right to appoint an auditor ("Comisario de Cuentas") to analyze the accounts approved by the Board of Directors (Art.47)
- Contracts with "affiliated entities" require unanimous agreement of the Board.

Contracts with "Affiliated Entities"

At the time the management contracts were executed, Edesur and Edenorte,[1] signed another contract to bypass the unanimity requirement for contracts with "affiliated entities", alleging that such contracts were needed to provide technical assistance and technology transfer. For contract amounts less than US$100K, Board authorization is not required. For larger amounts, the process is as follows:

- Union Fenosa must submit at least 10 days prior to Board meeting, a proposal for agreement with an affiliate, stating reasons why an affiliate is better than other vendors, and providing proof that price is consistent with international market rates.
- Any Board members opposing the agreement will have 5 days to oppose it, and will have to base the opposition on technical reports prepared by qualified professionals in the product area proposed. Otherwise, the agreement will be considered as unanimously approved by the Board.
- If there is opposition, there will be an informal meeting prior to the board meeting to reach a consensus. Nothing is specified if a consensus cannot be reached. Presumably, the agreement would not go forward.

[84] This is certainly how AES computes it for Ede-Este, according to the report prepared by the Comisario de Cuentas regarding Ede-Este's 2001 financial statements. The word "net" appears to refer simply to net of any discounts or adjustments on invoices.

If so, this formula does not provide an incentive to increase collections. We were informed that a new provision tying the 2.75 percent to amounts collected is scheduled to take place in 2004, as part of a renegotiation of the management contracts (but not of the capitalization contracts) which is currently taking place or soon to take place[85]. These negotiations are central to the issue of distribution company performance and legitimacy. A more detailed performance contract, specifying more clearly the skills to be transferred by the strategic partner in exchange for the administration fee, would greatly decrease the current atmosphere of accusations and confrontation with the Fenosa companies. Some of the issues that require resolution in the framework of a performance contract include:

- Requiring that management decisions be based on prudent business practices and a fiduciary duty to maximize profits for the shareholder, as is standard in any for-profit corporation.
- Eliminating diversion of potential profits through affiliate or parent transactions (other than the management fee) that appear as expenses, thereby allowing all stockholders to share the profits based on their percentage of ownership.
- Improving the quality of service, terminating the load-shedding, and specifying clear targets for increased collections and reduced losses as part of the technology transfer process.
- Providing an explicit obligation to improve infrastructure and expand service for low-income and rural populations under mutually acceptable financial terms. In accordance with world-wide practice, Government financial support would be agreed to beforehand.
- Conducting regular, transparent and independent financial and technical audits of the distribution companies.
- Instituting regular consultations with community organizations and consumer groups to improve customer service and assess client satisfaction.

2.10 WHOLESALE MARKET: ANALYSIS AND CHALLENGES

2.10.1 Incentives for Investment in Generation

There has been substantial investment since the enactment of the July 2001 Law. From 2000 to 2001, for instance, installed generation capacity increased by 367 MW, or 14 percent.[86] Recent investment in generation has led to considerable diversification of fuels in the country's installed generation base. The country was entirely dependent on water and hydrocarbons prior to the beginning of the reform process. Now additional fossil fuels are in use, namely coal and (starting in 2003) natural gas from the LNG facilities installed by AES. In addition, several parties are at various stages of evaluating the development of wind turbine, as renewable energies enjoy a variety of incentives.[87] Further reduction in the country's dependence on hydrocarbons may be limited, however,

[85] Curiously, in 2001 Haina increased the fee to 2.95 percent of net sales for a 15-year period. We have no details about this change.
[86] OC, 2001: Table 4.
[87] For instance, renewable capacity is not included in the restrictions on vertical integration set in the July 2001 Law.

by the exclusion of private ownership from hydroelectric facilities. Private development of facilities below 1 MW is currently allowed, but according to CDEEE, this exemption has failed to encourage any projects. Hydroelectric generation could play a more important role in the country's energy matrix (it was only 16 percent of installed capacity in 2001, and no new facilities are currently being developed). CDEEE estimates that there could be a potential of 800 to 900 MW of hydroelectric generation still untapped. But with very limited resources at present, the public sector is unlikely to develop additional hydroelectric plants. According to the government, the state hydroelectric company is investing only in the rehabilitation of existing hydro units, which have experienced sedimentation problems.[88] Article 131 of the July 2001 Law, on the other hand, does contemplate the possibility of private sector financing through vehicles other than equity.[89] According to CDEEE the company is actively pursuing innovative ways of tapping private capital for the development of new hydro plants.[90] But leaving matters to the initiative of the CDEEE's current management does not seem sufficient, given the magnitude and potential impact of hydro in reducing oil dependence and its vast impact on the financial sustainability of the sector, as discussed below. The vagueness of the current legislation, and the failure of the 1-MW exemption, point to the need for stronger measures. The possibility of passing a concessions law including hydroelectric concessions could be an important step in overcoming the limitations of the current setting.

2.10.2 Spot Market Prices and Degree of Competition

Spot prices for energy are quite high due to the high dependence on imported oil. In 2001, average monthly marginal costs varied from about US$50/MWh at the lowest level, to US$90/MWh at the highest. The basis for valuing electricity from hydroelectric units with reservoirs, for the purposes of establishing the dispatch merit order (and hence spot market prices), has not yet been established by the CO, as mandated by Art. 259 of the Reglamento.[91] The same article specifies that hydroelectric facilities are either not taken into account for the determination of the spot price of energy, or that EGEHID is free to determine the value of electricity from its units. Neither alternative is desirable: the first one introduces inefficiency in the market, as the merit order curve will be distorted; the second one reduces transparency in price formation. However, hydroelectric capacity is too small (16 percent of installed capacity in 2001) to be ever marginal and hence set the spot price, so the lack of transparency affects mainly the pricing of ancillary services, which hydro units are especially capable of supplying. By

[88] 118 MW were rehabilitated in 2001. Response to the Inter-American Development Bank's Technical Mission assessment of November 2002.

[89] The website of the hydroelectric generation company (EGE Hidroeléctrica, www.hidroelectrica.gov.do/proyectos.htm) calls for offers from parties interested in financing the company's hydroelectric projects.

[90] Generation equipment can be funded through export promotion loans from the manufacturing countries. Civil works would be built by private contractors in exchange for a pledge of future revenues by EGEHID.

[91] It is economically incorrect to price the electricity from hydroelectric units with reservoirs at zero on the basis that the variable cost of such units is nil. Reservoirs confer such facilities the capacity to allocate their output over time. Since the spot price of electricity varies considerably over time, and the amount of water in the reservoir is limited, generating electricity at any point in time has an opportunity cost that must be taken into account for the optimal use of these facilities.

Resolution No. SIE-19-2001, SIE has capped spot market prices at the variable cost of the Higuamo generation plant.[92] If units with higher variable costs have to be dispatched, they are paid their variable cost rather than a market price applicable to all dispatched units. The price cap was apparently imposed first in Resolution No. SIE-09-2001, but no clear reason is offered for the cap. The only reason that can be inferred is to limit spot market prices in the wake of the elimination of government fuel subsidies to the generators that limited maximum spot market prices.

In an electricity market as small as that of the Dominican Republic, with peak demand below 2,000 MW, market power is always a concern. Requiring generators[93] to bid only their variable costs, subject to the threat of audits, makes price manipulation harder, as it impedes opportunistic bids when peak demand comes close to installed capacity. This is common across most Latin American wholesale markets, following the original model from Chile. Variable costs can be easily audited because the fuels used by generators in the Dominican Republic—coal and hydrocarbons—have liquid international markets against which prices can be checked,[94] and heating rates can also be easily checked against manufacturer specifications and extensive worldwide data. We understand that the CO has hired an Italian firm to conduct an audit of variable cost data, which should provide assurances that ranking and dispatch are based on economics and not on market power.[95]

With variable cost bids in place, the only other way prices can be manipulated is by withdrawing generation from the market. The typical way of doing this, as observed in the England and Wales Pool and in California, is by declaring a unit unavailable, so that the marginal generator becomes a higher-cost one and the spot market price increases. In the Dominican Republic, generators have shut units down deliberately. Their explanation, however, is that CDE wasn't paying them for the power, not that they were trying to manipulate market prices. We believe their explanation for the following reason: for capacity withdrawals to make sense for an *individual* generator, it must own several units, ideally with different variable costs. Then, when both are being dispatched, the more expensive unit can be declared unavailable (e.g, by claiming it tripped off the system). If the merit order curve is sufficiently steep, the spot price increases so much that the generator can make *greater* profits with only the low-cost unit running than if both units were up. Even if this were true for some generators in the Dominican market—and we have neither performed nor come across analyses of this kind—a further disincentive is the fact that, as mentioned below, about 80 percent of electrical energy is traded through contracts. Contracts eliminate incentives to manipulate prices, because

[92] According to the merit order for the week of November 30 to December 6, 2002, Higuamo had a variable cost of about US$94/MWh. Only three generation units had a higher variable cost.
[93] By "generator" we mean, in this paragraph, not only Haina, Itabo, and EGEHID, but also the IPPs.
[94] Even LNG has become increasingly commoditized as new suppliers such as Trinidad have begun competing with Algeria; also, since LNG has to compete against natural gas in the U.S., the price of natural gas there can also be used as a reference point.
[95] To be effective, the threat of audits must be credible. In the Colombian wholesale market, market power problems have been exacerbated by the lack of efforts by the regulator to enforce audit rights.

the seller does not benefit from higher prices,[96] and because at least in the Haina, Itabo, and CDE contracts there are steep penalties for failure to deliver.[97] For these various reasons, the price cap imposed by the regulator would appear to be unnecessary at this point *from a market power perspective,* although not necessarily as a means to dampen the impact of oil price increases.

2.10.3 Ancillary Services

Charging appropriate prices for ancillary services is important in a wholesale market. Although there is some controversy as to how many types of ancillary services products should be defined and charged for, at least a minimal system should be in place. The reasons are that ancillary services can represent a significant cost of running an interconnected electricity network, and generation technologies vary in terms of their suitability for providing different types of ancillary services. Charging and crediting properly for the use or supply of ancillary services can provide adequate incentives for the development of plants that can supply the services, and a disincentive for activities that produce reactive power, such as certain types of load. The Reglamento (Title IX, Section VIII.1) specifies pricing rules for reactive energy, voltage regulation, frequency regulation, and spinning reserve. At present, generators are being charged, according to Haina, but there is apparently no transparency as to how the charges are calculated. We are unsure about the reasons for the lack of transparency of application of the pricing rules specified in the Reglamento.[98] It is clear, however, that according to the Reglamento, the CO is responsible for the computation of correct charges for ancillary services and for including these charges in the monthly settlement and collection process.[99] The CO should thus address any current shortcomings regarding charges for ancillary services.

2.10.4 Unregulated User Participation

At present, few unregulated users are buying energy or capacity in the wholesale market: in August 2002, for instance, purchases by the unregulated users (QUITPE, Carrefour, and PIISA) represented 6.7 GWh out of a total load for the month of 841.6 GWh, less than 1 percent of the total. The reason for this situation is most probably SIE Resolution No. 15, which is discussed below.

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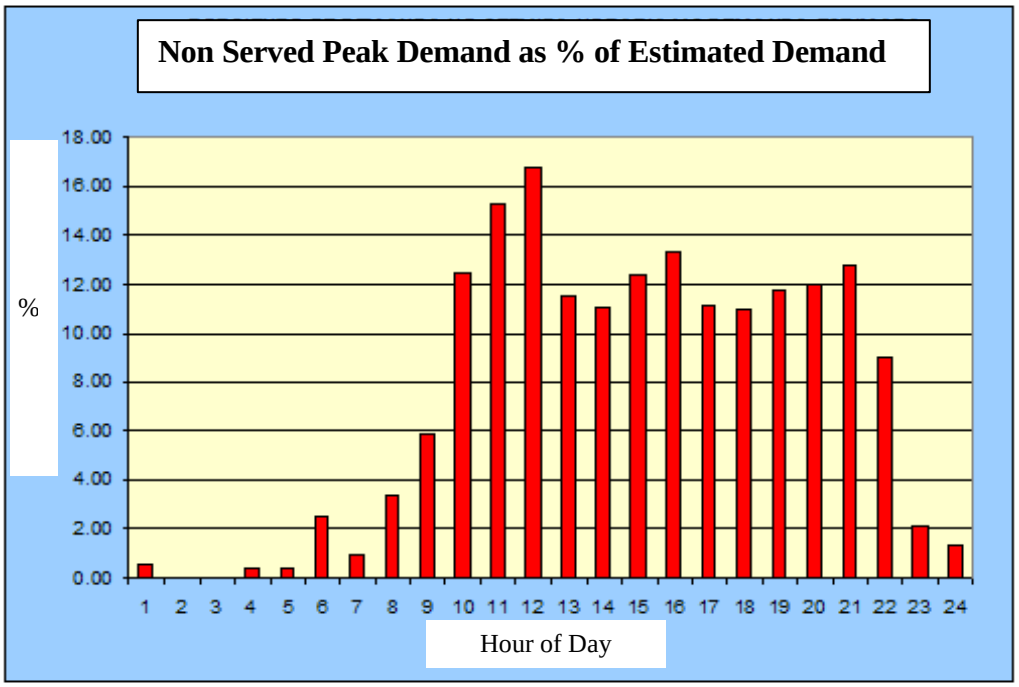
[96] The benefit would only come in the longer term, as sustained high spot market prices would be reflected in higher contract prices when the time came to renew the original agreement. But at present, this would be a purely speculative manipulation of market prices, involving significant opportunity costs.

[97] These contracts refer the penalties to the applicable law, which at present sets a penalty of 300 percent of the cost of the energy bought by the user to replace the energy not served by the seller. In addition, unavailability is typically penalized in PPAs by making capacity payments contingent on availability, but we have not been able to confirm for the PPAs in the country as we have seen very few of them.

[98] For instance, on December 18, 2002, the SIE issued an order setting the compensation for frequency regulation at RD$131/MWh, but the basis for the computation of this figure is not provided in the order.

[99] Recall that, according to the CO itself, it has not yet installed the commercial information system required by the law.



2.10.5 Supply Restrictions

The CO estimates the amount of electricity demand that cannot be fulfilled at any point in time due to supply restrictions of various kinds (known as "un-served energy"). The estimated levels of un-served energy are quite significant. During the peak day in 2001, for instance, out of a total generation of close to 1,500 MW near the peak hour, an estimated maximum of 240 MW (almost 15 percent) were not served. The magnitude of the problem becomes apparent in the graph below:

In energy volume terms, the deficit reached an annual maximum in November 2001, with more than 23 percent of estimated energy demand being unmet.[100] Even with a substantial excess of available capacity over that needed to satisfy peak demand,[101] electrical energy generated in the last two years could not meet the demand. In 2001, 9742 GWh of electrical energy was generated, with a total demand of 11,734 GWh and a deficit of 1992 GWh. This means that about 17 percent of demand was not served despite the available generation capacity to meet the demand. In August 2002, hourly un-served demand reached 550 MW (for a slightly lower peak demand level), or 15 percent in volume terms.[102]

[100] OC, 2001: Table 2 and Chart 8.
[101] According to CNE figures (presentation by George Reinoso, CNE Director, Miami, September 2002), in 2001 actual peak demand was 1,798 MW, whereas installed capacity was 3,156 MW and available capacity, 2,613 MW.
[102] OC, Informe de Operación Real, Agosto 2002, Charts 2 and 8.

The problem of un-served energy is caused by problems with the quality of service and collections experienced by the sector as a whole, as can be seen in the CO's partial estimates of the causes of un-served energy. During the peak day of August 2002, the CO estimated[103] that, as a percentage of the total un-served energy during a 24-hour period, the most important reason by far was insufficient generation capacity with 54 percent, followed by distribution overloads and circuit protection (16 percent), load shedding (9 percent), unscheduled maintenance[104] (8 percent), scheduled maintenance (6 percent), low voltage (5 percent), and transmission faults (2 percent). In some cases, un-served energy is caused by a collapse of the entire interconnected system. In the year 2001, for instance, there were seven such system-wide blackouts.[105] On an annual basis, although we only have information from Edenorte and Edesur,[106] the results seem quite different regarding the causes although not the extent of the blackouts. For 2001, Edesur's service interruptions left, on average, all customers without electricity for 13 percent of the hours in the year, or more than thee hours a day.[107] Edesur estimates that 63 percent of the time, the causes were internal, and the rest were attributable to generation and transmission causes (mainly unavailability of the Smith-Enron plant). Edenorte's customers were without service for an average of 18 percent of all hours, or more than four hours a day. Internal causes accounted for 55 percent of the hours.[108]

Looking at the limited information we have on the causes of un-served energy, it is clear that financial problems play a major role in the sector. Lack of availability of generation capacity is caused by generators shutting down for lack of payment, not for lack of installed capacity.[109] Some distribution companies have alleged that generation companies are "gaming" the spot market by removing units from the dispatch ranking system to force the use of higher-priced units. Although we have no evidence that this is the case, occasionally, the generation shutdowns do seem to flare up in open conflict. SIE Resolution No. 32-2001 threatened penalties for the generators that were apparently not heeding the instructions of the CO and the dispatch center.

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[103] Ibid. Table 2.

[104] The report does not explain whether maintenance refers to generation, transmission, or distribution.

[105] OC, 2001, p.31. These collapses have been caused, in general, by faults that overwhelm systemwide adjustment capacity, i.e., the ability to make up for the sudden loss of a generation facility by use of spinning reserve and capacitor banks. Some of these faults were generation facilities tripping off (3 cases), transmission line failures (2 cases), substation failures (1 case) and systemwide frequency and voltage falls due to insufficient generation capacity (1 case). With the exception of the last case, the other faults would in principle point to the need for reliability-related investment in the transmission system. This point is retaken below in the discussion of the transmission system.

[106] In 2001, Edenorte and Edesur installed a comprehensive energy control system, which measures energy flows at all points of interconnection with rest of the country's interconnected grid, and at intermediate points (into and out of substations and distribution circuits), allowing the analysis of losses by voltage level and geographic area. Edesur and Edenorte, Informe de Gestión, Año 2001.

[107] Edesur and Edenorte measure interruptions by adding the total amount of un-served energy (in MWh) and dividing it by the total capacity of the distribution system, i.e. how much energy can the distribution system as a whole deliver in one hour (in MW). As with all averages, this probably masks wide variation. Poor neighborhoods probably experienced many more hours without service than other areas.

[108] Edenorte and Edesur, Informe de Gestión, Año 2001.

[109] Installed capacity, as discussed elsewhere in this report, amply exceeds peak demand.

Load shedding by the distributors is also caused by financial reasons—theft of electricity and nonpayment at the distribution level. We were told that distributors are resorting to load shedding to avoid uncollectible accounts receivable from delinquent end-users. Distributors are attempting to reduce their financial losses through load shedding—perhaps an acceptable practice from a short-term business perspective, but not consistent with the obligation to provide reliable power to customers.

Finally, distribution circuit overloads and maintenance needs point to the consequences of insufficient investment to upgrade capacity.

Altogether, then, the high level of un-served energy points to the urgent need to ensure the financial sustainability of the sector. The reasons for the financial problems affecting the sector and the current measures being pursued to tackle these problems are discussed below.

High system losses make the problem of lack of availability of generation capacity worse. Here, the reform process appears to be having a positive impact. The total level of losses in the system, fell from 43.6 percent of energy generated from January to September 2000, to 30.5 percent for the January-September period in 2002. For Edenorte, energy losses (as a percentage of energy entering the company's facilities) fell from 42 percent in January 2001 to 32 percent in December of the same year; for Edesur, the fall was from 37 percent to 22 percent.[110] CDEEE estimates that transmission losses have fallen from 7 percent to 3 percent over the last two years. Nevertheless, losses of 30 percent create an enormous financial deadweight on the sector and the pressure to reduce them must be maintained. The measures taken at present to reduce technical and non-technical losses are further discussed below.

2.10.6 Fuel Diversification and Energy Security

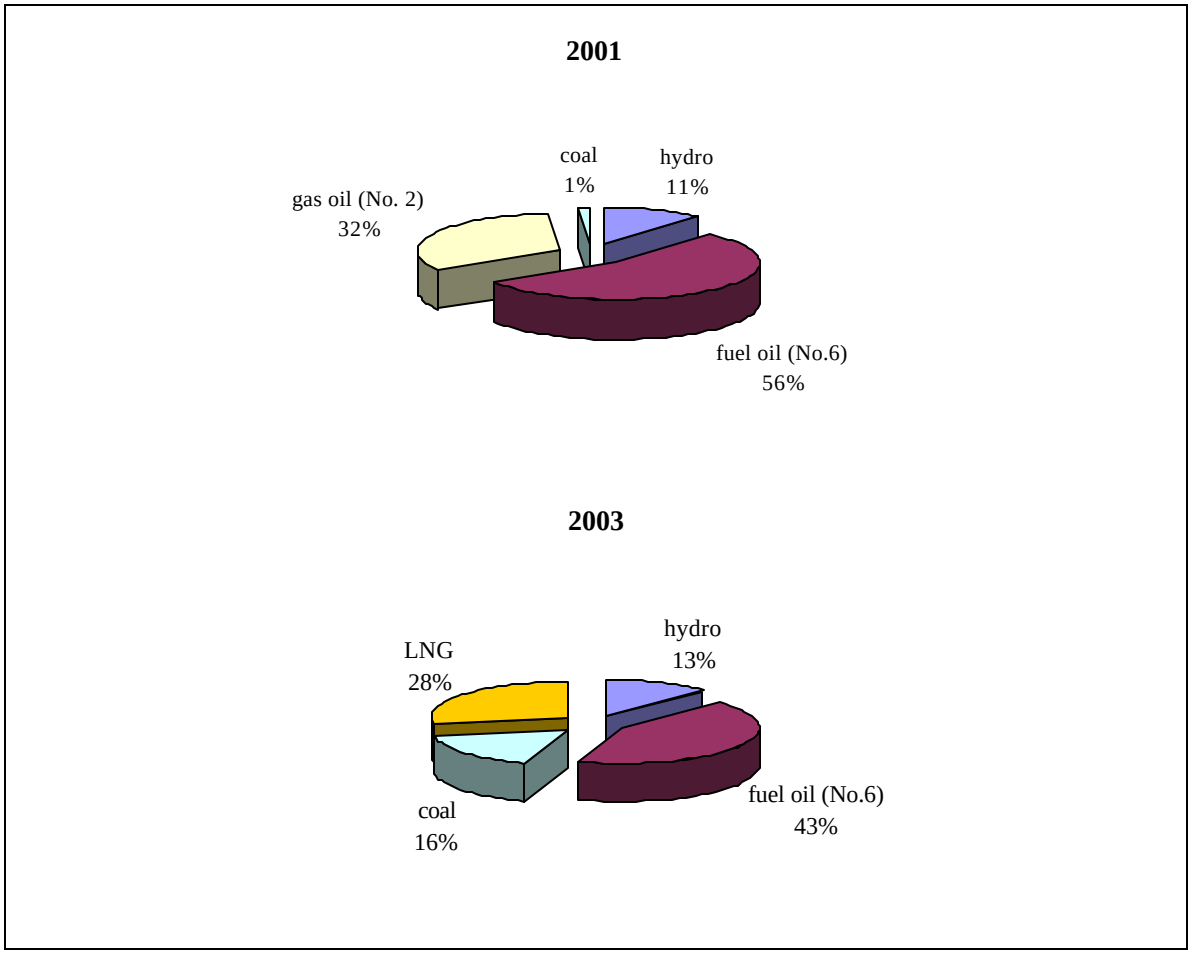
The Government of the Dominican Republic understands the need for the electricity sector to free itself from the damaging effects of oil price volatility and steep price increases. We strongly support the efforts of the Dominican Republic to diversify the fuel mix for power generation over the near-term future. Such efforts include:

- A new AES LNG storage facility to be available in early 2003, with a capacity to eventually serve 900MW of generation capacity. The facility will initially serve 500MW of capacity.
- Feasibility studies and fiscal incentives to promote the use of wind-generated electricity provided by companies from Norway, Canada, Spain and the United States.
- Possible expansion of hydro capacity, even though financial constraints on state budgets would limit public development of the approximately 600-900MW of undeveloped potential.

The projected evolution of the fuel supply mix is shown below:

[110] Edenorte and Edesur, Informe de Gestión, Año 2001.

Generation Fuel Mix, Dominican Republic, 2001 actual and 2003 expected



source: CNE

Although the issue of fuel price volatility primarily affects generation, lowered fuel prices and decreased volatility also serve the interests of distributors and consumers. Therefore, another possible measure to reduce dependence on imported oil would be an energy efficiency program for electricity use in all sectors and promoting cost-effective renewable systems.

2.10.7 Challenges Ahead

Looking ahead, however, there are a number of challenges that SIE as the regulator and the CNE as policymaker, must address to maintain competition in the wholesale market at a high level.

First, the recent PPA renegotiations have extended the term of the PPAs by 15 years in exchange for a number of concessions (see below) related to the financial sustainability of the sector. This means that a significant portion of demand will remain

closed to competition for the foreseeable future,[111] as the earlier termination of the PPAs would have created competition for new contracts with distributors.[112] On the other hand, the effect of the contract extensions on competition may not be severe for several reasons. The renegotiated PPAs allow reductions in contract capacity (and associated energy) levels as large users migrate to the wholesale market, so the PPAs will not impede this type of competitive force.[113] In addition, in an environment where demand has grown by more than 8 percent per annum on average over the last decade, demand growth will provide abundant opportunities for competition. Finally, some of the PPAs managed by CDEEE are being bought out and the generation units turned into merchant plants (this is further discussed below).

Second, the July 2001 Law's ambiguity with regard to vertical integration can restrict competition in different ways. According to most parties with whom we discussed the issue, and according to past SIE opinions[114], the July 2001 Law's exception for vertical integration by distribution companies (Art.11, para. I) is applicable on a legal entity basis, which means that the two Unión Fenosa distribution companies (Edenorte and Edesur) could together own up to 30 percent of installed generation capacity. In turn, this would cause a considerable level of vertical integration and significant horizontal concentration in the wholesale market. With vertical integration and horizontal concentration, Unión Fenosa's distributors could contract their electricity purchases under conditions of less than perfect competition that might favor the company's own generation assets.[115] In this regard, it is worrisome to note that in Resolution SIE-13-2001, the SIE declared itself not competent to judge on such matters and referred the matter to the Government. On the positive side, Art.113 of the July 2001 Law excludes contracts between distributors and their generation affiliates from the determination of the energy and capacity prices passed through to the distributors' regulated customers. More generally, Art.110 of the July 2001 Law requires that contracts for the supply to distributors be subject to open auctions under terms set by the SIE, and grants the SIE the power to examine the contracts. The recent modifications of the Reglamento require the generation affiliates of distributors to sell at least 40 percent of their output in the spot market (Modifications to Reglamento, Art.10 modifying Art.44 of the original). Lastly, there is little indication that Unión Fenosa is planning to push up its generation to the 30 percent maximum for the time being. We conclude that there is no apparent threat at present, and the July 2001 Law provides SIE with the tools to address any adverse effects

[111] At present, according to the Government, PPAs add up to 1,300 MW, or 73 percent of peak demand.
[112] Recall that distributors must meet at most 80 percent of their needs for capacity and energy through contracts. By the end of 2001, the distributors slightly exceeded this maximum (OC, 2001: Chart 15).
[113] Again, the IPPs are being compensated for potential reductions in capacity payments through a much longer term for the contracts during which captive customers of the distributors (residential and small commercial) will continue to make capacity payments. Note that any take-or-pay provisions in PPAs appear to have been superseded by the Reglamento, as it requires plant dispatch on the basis of auditable variable costs alone (Title VIII, Chapters III and IV). All currently applicable PPAs we have been able to review contain capacity payment provisions rather than take-or-pay obligations.
[114] Order SIE-13-2001.
[115] We note that Edenorte recently signed a PPA with Unión Fenosa's La Vega plant, and Edesur with Palamara, also owned by Unión Fenosa. Although the contracts were apparently not competitively procured, the terms of the La Vega contract are identical with those of the renegotiated PPAs. We have not reviewed the Palamara contract.

of vertical integration on competition and captive consumers. It is the SIE's responsibility to ensure that the provisions of the law are enforced, and SIE must not side step this responsibility in the future. This should be an essential element of the SIE's institutional objectives and responsibilities, possibly through the expansion of the SIE's enforcement unit.

Third, the proposed Haina-Itabo merger is cause for further concern about horizontal concentration, because the resulting merger would create an entity controlling approximately 42 percent of current installed capacity.[116] Although this merger is subject to regulatory approval by SIE, we were told (not by SIE) that SIE will most likely approve the merger because, among other reasons, there is healthy competition in the generation sector. We also note that the Government will accrue significant financial benefits from the merger because of its 50 percent ownership of Itabo, which obviously provides a motivating force for the Government to advance the merger regardless of the market consequences. The merger of Haina and Itabo will result in a company that will have an even greater diversity of plants than either company separately, thereby increasing the incentives of the merged company to attempt to manipulate prices via availability redeclarations, as explained above. For instance, in the merit order for November 30 to December 6, 2002. the combined entity would have 260 MW of cheaper supply (the Itabo II and Sultana del Este plants), and also 170 MW of some of the most expensive units (the three Itabo turbines and the two Higuamo units). During peak times, Haina-Itabo could diminish the availability of its peaking units so that the spot market price is pushed upwards and Haina-Itabo's baseload units can reap additional margin. Another possibility is that, when contracts with distributors or large users are up for renegotiation, Haina-Itabo could impose higher prices. Clearly, the Haina-Itabo merger will require SIE to monitor more closely the potential abuse of market power. In a situation of relative institutional weakness and still nascent capabilities on the part of the SIE, it might not be advisable to add such an additional burden on the SIE. The implications of the Haina-Itabo merger need to be carefully assessed before a final determination is made.

Fourth, Order SIE-15-2001 constitutes a serious obstacle to competition and participation in the wholesale market. The order requires end users who select power from a source other than their distribution company to pay a significant charge for access to the wholesale market. The charge equals 85 percent of the distributor's margin for sales of electrical energy between cost of purchase and sales price. Such a high charge can severely limit the ability of merchant generators to offer attractive contracts to unregulated users. If maintained, it will also negate the pro-competitive effects of planned reductions in the threshold of access to the wholesale market that are specified in Art. 2 of the July 2001 Law.[117] In our interviews, it did not become apparent that the order would be rescinded any time soon; in fact, some individuals expressed concern about the July 2001 Law's provisions about the access thresholds (see footnote 117), on

[116] OC 2001, Table 4.

[117] Under the definition of "public service user or customer" ("usuario o cliente de servicio público"). The schedule in the July 2001 Law is as follows: customers with 2.0 MW or more of contracted demand at the time of approval of the July 2001 Law (2001); 1.4 MW in 2002; 0.8 MW in 2003; 0.2 MW in 2004.

the basis that these provisions violate the terms under which the distribution companies were capitalized.

Given other changes taking place in the distributors' commercial environment, it is difficult to understand their resistance to allowing such migration to occur, i.e., their fear of "cream skimming." First, the renegotiated PPAs allow the distributors to lower their capacity purchases as large users migrate to the wholesale market. The distributors are not stuck with capacity they no longer need as the migration occurs. Second, with the implementation of the technical tariff, cross-subsidies in the rates will be entirely eliminated, together with any margins from the sale of energy and capacity to users, as energy and capacity costs will simply be passed through to the end users[118]. Distributor profits will be obtained exclusively through the supply of distribution services. The only reason why distributors might oppose large user migration is the fact that large (non-Governmental) users pay their bills more promptly than any other users, but this anomaly should be corrected over time with the programs implemented by the Government, which are discussed below.

Fifth, competition may be hampered by transmission bottlenecks, which would split the market into smaller regions and thus create inefficiency, leading to higher spot prices. Since this issue stems from financial considerations concerning ETED, it is addressed in the section on financial sustainability.

Finally, we note the challenge of ensuring that distributors abide by the legal requirements that they purchase at least 20 percent of their needs on the spot market, and that any new contracts should be competitively procured.

To summarize, we are concerned that lack of vigilance by SIE--whether due to complacency, outright negligence, lack of adequate staff or other reasons--may be decreasing competition in a wholesale market whose size is already small by international standards. Although the renegotiation of the PPAs may not pose a direct threat to competition in the spot and contract markets, the possibility of vertical integration by Unión Fenosa, the proposed Haina-Itabo merger, the permanence of Order SIE-15-2001, the possibility of transmission bottlenecks, and over-contracting by distributors constitute, as a whole, a significant challenge which SIE must be prepared to address.

2.11 TRANSMISSION SERVICE

In the course of conducting our interviews, we heard conflicting views whether the transmission grid was capable of handling a full dispatch of existing generation. Generally, the Government entities such as CDEEE stated that the transmission grid was fully capable of handling full dispatch, while the sector players such as the distribution companies and generation companies complained that a system needed major upgrades in capacity. One company told us that a major problem exists not only getting the power to the city gate, but also getting the power past the city gate into the city; this issue was their top priority.

[118] July 2001 Law, Arts. 110-119.

It is perplexing to us that so many qualified individuals could have such differing opinions about such a critical issue. It is not within the scope of this report to conduct the technical study necessary to make a definite finding on this issue, but we agree that it is a critical issue. The fact that there is such a wide diversity of opinions on this issue means that it needs to be studied and resolved as soon as possible. This is especially critical in view of the efforts to correct collection and quality of service issues at the distribution level, meaning that once these issues are corrected, any problems in the transmission grid will become acutely apparent.

However, based on a report conducted in 1999 by Mr. Germán Guerrero, a Chilean consultant, the expansion needs are:

- some system reinforcements and looping to increase reliability (for instance, additional capacitors may be needed to maintain stable voltage levels at all times);
- the expansion of regional networks, mainly to allow greater electrification and improvements in distribution service quality;
- the construction of several substations to solve distribution problems caused by the existing high-voltage feeders being too overextended for adequate voltage regulation (this appears to be consistent with AES' assessment about the key problems in the transmission grid); and
- for the longer term, the development of a 345 kV North-South trunk line.

There is also much scope for reducing technical losses, which account for 15 percent of the power flowing into the distribution network. In our view, adoption of international "best practices" could reduce this figure to five percent or lower through modest investments in reducing resistive and reactive losses, improving the power factor, and replacing inefficient distribution transformers. Standards for maximum frequency and voltage deviations are provided in the Reglamento. *SIE's enforcement of these standards should improve the quality of generation and transmission service, and lead to a reduction in technical losses.*

Closely related to the need for loss reduction, which may require investment in capacitor banks and other equipment, the most serious concern about the transmission system is the adequacy of current and expected toll revenues to allow adequate expansion. This is covered in the section on financial sustainability.

2.12 FINANCIAL SUSTAINABILITY

Financial sustainability, in the sense of ensuring a sufficient flow of financial resources over time to meet the operating and investment needs of the sector, is key to the overall sustainability of the reform. The foundations of the reform lie in the transfer of investment decisions in generation and distribution from the public sector (the former CDE) to the private sector. On the generation side, this transfer is achieved through the creation of a competitive wholesale market, where private generation businesses compete to sell multi-year contracts to distributors and large consumers of electricity, and to sell

capacity and energy in the spot market.[119] On the distribution side, investment is undertaken by the distribution companies in response to financial incentives provided by the regulatory framework. Unlike the public sector, privately-owned companies lack the ability to rely on tax revenues to cover any shortfalls between revenues and costs, including investment-related needs;[120] given that the July 2001 Law makes cross-subsidies infeasible, social objectives can only be met through explicit subsidy programs such as the PRA or the PNER Operating and capital costs can only be funded from commercial revenues. Therefore, if the flow of revenues in the sector is insufficient to cover operating and capital costs in any of the segments of the sector's value chain, private-sector companies will not be able to make sufficient investments or may even be unable to continue operating. Sustainability is guaranteed only if the public receives reliable, affordable electricity services for which it pays, and the industry receives adequate financial incentives for efficient operation and expansion. The sustainability of reform will hinge on the effective balancing of these interests, which has proved to be highly problematic so far. It is clear to us that ensuring the sustainability of reform requires that innovative solutions be implemented on all fronts: policy and institutional, financial and technical.

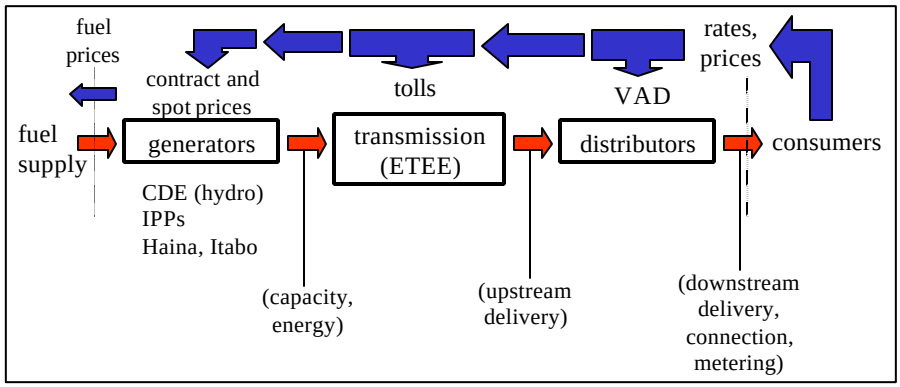
To better understand the foundations for the financial sustainability, it is useful to use a value chain diagram for the sector as a whole. The sector's revenue stream originates at the downstream end of the sector, through regulated and unregulated sales to end users of electricity; some of these revenues then flow to the upstream segments through payments for transmission and generation. The value chain illustrates the dependence of the entire sector on downstream sales. The value chain also shows that the amount of money that flows upstream depends on the prices at which transactions between downstream (distribution) and upstream (generation and transmission) companies take place. This is an important issue in the Dominican case, as in most other markets that have gone through several iterations of reform.[121]

[119] Before reform, the market did not exist, so private investment could only be attracted to generation through long-term PPAs. Competition was restricted to bidding for PPAs requested by the CDE.

[120] We assume that political and financial considerations bar any further investment by the public sector, as shareholder, in the capitalized companies. Not only are public finances under severe pressure from many fronts (foreign debt service, social needs, transport infrastructure, water and sanitation), but it would be politically unacceptable to invest public funds after a the controversial capitalization process, which was supposed to end the public sector's investor role in the electricity sector. .

[121] The first cycle of private sector involvement in the electric power industry around the world consisted in the development of power plants through long-term PPAs; this gave way during the 1990s to a second generation of reforms involving the vertical unbundling of the sector and the creation of wholesale electricity markets where private investment in generation would be market-driven.

Electricity Sector Value Chain



With this diagram in place, we can then proceed to examine the financial challenges faced by the Dominican electricity sector in the aftermath of the reform.

2.12.1 Retail Revenues

The performance of distribution companies is fundamental to the success of power sector reform. The delivery of reliable services to end-users and the collection of revenues constitute the financial anchor for the electricity value chain. From an industry and investor perspective, the value chain will be broken unless revenues from consumers cover the costs of expansion, new investment, operation and maintenance. Poor distribution performance places the financial viability of the entire sector in jeopardy.

The first weak point in the system concerns both the level of regulated rates and the collection of revenues from regulated consumers. Without question, ability and willingness to pay for electricity constitute the greatest challenges faced by the reform from a financial perspective. Ability to pay is problematic in a country at the per capita income level of the Dominican Republic, where the UN estimated that in 1987-97, 21 percent of the population lived on less than US$1/day,[122] and thus much of the population may not be able to afford basic electricity consumption needs in the absence of subsidies.[123] Willingness to pay is also a key challenge because, as in many other countries, prior state ownership has left major negative legacies with regard to both the level of rates and revenue collection: (i) significantly subsidized rates, which makes consumers reluctant to pay the full cost of electricity supply[124]; (ii) the perception of electricity supply as an entitlement, and thus low historical collection rates; and (iii) as a

[122] Economist Intelligence Unit, *Country Profile 2002: Dominican Republic, Haiti*, p.18,

[123] This issue is also addressed in the social impact section of this report. We are unaware of the existence of a systematic assessment of household income and expenditure patterns in the country, and time and scope limitations have prevented us from seeking such a survey if it exists. Our own informal enquiries around the country indicate that at current rate levels (after the removal of oil subsidies), a low-income household with minimal lighting and refrigeration load may be spending up to one-third of its disposable income on electricity. This is certainly unaffordable, when housing, education, transport, food, clothing, and health care considerations are taken into consideration. NRECA estimates that on average, poor people pay about 10 percent of their income for electricity.

[124] "Rate shock" is an especially acute problem in a context where a controversial reform was sold politically through the claim that it would lower rates.

result of (i) and (ii), lack of financial resources for state-owned utilities, leading to underinvestment in distribution networks and to high levels of technical losses and poor quality of service. These legacies explain many of the revenue problems faced by distributors in the Dominican Republic:

- High levels of technical losses
- High levels of theft, fraud, and nonpayment
- High initial levels of unfunded subsidies (until September 2002).

Collection data from various classes of consumers provided by Ede-Este for the first eight months of 2002 show excellent collections from the industrial sector (102 percent) but lower collection rates for residential (73 percent) and commercial customers (81 percent). The worst payer is the Government, with a collection rate of only 5 percent before the payment of subsidies (fuel subsidies, which were paid until the Presidential measures of September 2002, were allocated to all customer classes and are not equivalent to payments for electricity consumed by Government entities). These data are presented in Table 8 below for the year 2002. Unfortunately, no data showing collection percentages by income group was available to the team.

For the Unión Fenosa companies, Ede-Norte and Ede-Sur, the data we have for the first ten months of 2002 shows a similar pattern for industrial and commercial collections: 96 percent from industrial customers, 82 percent for commercial. Residential collections were comparable to Ede-Este at 62 percent, but Government collections were substantially higher at 83 percent (due to nearly 100 percent for the central Government and 35 percent for municipalities.)[125]

Table 9

Ede-Este Collections Data, January-August 2002

	Industrial	Government	Residential	Commercial
Billed RD$ '000	953,274	344,287	966,293	347,363
MWh	474,461	163,761	607,002	164,822
Average Tariff RD$/MWh	2.01	2.10	1.59	2.11
Participation	37%	13%	37%	13%
# of Clients	3,280	2,046	333,737	38,634
Collected in RD$'000	976,613	18,250	709,167	281,216
Collections %	102%	5%	73%	81%

source: AES Corporation

[125] The collection ratio for the Unión Fenosa distributors rose from 73 percent in 2000 to 89 percent in 2001. Of course, this only concerns *metered* sales; technical and non-technical losses represent a further contribution to the financial drain on the distributors.

Table 10

Edenorte-Edesur Collections Data, January-October 2002

source: Edenorte and Edesur

	Industrial	Government	Residential	Commercial
Billed RD$'000	2,550,229	1,058,046	3,349,358	888,686
Collected in RD$'000	2,438,122	878,480	2,071,000	728,475
Collections %	96%	83%	62%	82%

We note that the distributors have developed a wide network of points of payment for electricity bills as an effort to improve collections. In the case of Edenorte and Edesur, for instance, payment points in 2001 included banking and retail establishments (64 for Edesur and 74 for Edenorte), plus 131 bank branches in Edesur's territory and 143 in Edenorte's, among them those of the country's major banks such as Banco Popular and Banco Agrícola (Edenorte and Edesur, Informe de Gestión, Año 2001). Ede-Este has instituted similar payment options. However, during a spot check at an Ede-Este/AES payment center on a Friday afternoon, we noted long lines consisting of over an hour wait. For whatever reasons, customers chose not to use alternate payment locations even through they were readily available and in close proximity to the AES payment center. This may illustrate the need for the distribution companies to educate the public about alternate locations through public information and promotional campaigns, e.g., offering small discounts for using alternate locations and educating customers that payments at the alternate locations have the same effect as payment at company payment centers.

As a result of measures taken to reduce illegal connections, improve billing and collections, and upgrade the distribution network, technical and non-technical losses decreased 13.1 percent over the period from January-September 2000 to January – September 2002. The losses therefore declined from a total of 43.6 percent to 30.5 percent over this period. However, despite the improvement, the sector cannot attain financial viability at this level of theft and technical losses.

Poor quality of service, manifested mainly in the form of blackouts or "un-served energy," has compounded the problem. Blackouts make consumers more reluctant to pay their bills, as they perceive an imbalance between price and quality of service. For instance, distributors currently buy power from the transmission company at about 8 cents a kilowatt-hour, and sell it to residential consumers at 13.8 cents a kilowatt-hour. Informal interviews conducted by the team indicated that many middle and upper income consumers would be willing to pay the comparatively high price of 14 cents a kilowatt-hour if they were assured of high-quality, reliable service 24 hours a day and 7 days a week. *Blackouts thus create a vicious cycle where they lead to greater theft and fraud, which in turn weakens the utility financially and technically*. As discussed earlier, the un-served energy problem appears to be caused by financial problems: generator shutdowns due to nonpayment by their customers (mainly CDEEE and the distributors), load shedding by distributors of districts with low collection rates, and a legacy of underinvestment in "wires" which has left behind shaky distribution and, possibly, transmission systems.

One way of ending the vicious cycle is by creating a better relationship between the distributors and consumers. Judging from media reports and our informal conversations with a variety of consumers and officials, there is widespread dissatisfaction and distrust with distribution companies,[126] pointing to a serious issue that requires timely and remedial action. This highlights the need for improved customer relations (media campaigns, dialogue, prompt resolution of complaints, etc.) between the distribution companies and their customers.[127] Customers need to adopt a culture of prompt payment to ensure the financial viability of the distribution companies.

Public policy can also help break the current deadlock. We believe that the situation calls for Presidential leadership to address the rift between distribution companies and their customers, possibly through devising a new "social compact" among the distributors, the Government and the communities. Media reports and our interviews with senior Government officials have made it clear that President of the Republic is staunchly against renationalization. Yet the President needs to strike a balance between assuaging public anger and preserving an attractive investment climate for international investors. The fundamental clash between the President and the Senate illustrates the importance of implementing solutions that are broadly acceptable to the public, the power sector, and the domestic and international investment community. In seeking to achieve such a balance, there is compelling evidence from the experiences of other countries that *institutional reforms are broadly accepted if there are mechanisms for the public to participate in the design and implementation of new reforms and institutions*. In particular, public information campaigns, led by the Office of the President, could play a major role in spelling out the benefits of reform for all segments of the society. Reformers need to explain the relationship of electric power sector reform to other urgent national social and economic priorities, such as creating sustainable livelihoods and reducing poverty. They also need to explain the importance of a "social compact" that will deliver affordable and reliable power to all sections of the society, while maintaining the financial viability of the sector.

In the meantime, the Government has taken a number of measures to deal with the sector's problems. Some of these measures may permanently correct some of the problems, while other measures may only provide temporary relief and require further search for permanent solutions.

Unfunded subsidies. The reform contemplated a transition period with rate cross-subsidies until a purely cost-based tariff regime (the so-called "technical tariff") came into place on January 1, 2003. This was a sound idea, because regulated rates often include cross-subsidies and other distortions that make rate rebalancing desirable for

[126] For instance, in a recent senate session, senior executives of Unión Fenosa and AES were interrogated for several hours by legislators who accused the companies of "abusing" their clients and levying "high and exorbitant" bills.

[127] The gravity of the problem is underscored by the widespread negative image that Unión Fenosa appears to have despite the fact that it claims to have a team of about 30 communications and PR specialists as part of communications team, and that in 2001 it conducted about 20 meetings between company managers plus PR staff, and journalists and community groups (Edenorte and Edesur, Informe de Gestión, Año 2001).

efficiency purposes, but politically hard to implement at the outset of reform, when the legitimacy of reform has not been yet established, and when consumers expect lower, not higher rates (that is how reform is sold to a skeptical public, and the Dominican Republic was no exception to this rule).

However, rising world oil prices in 1999 and 2000, as the reform was being implemented, threw the plans into disarray. The distribution companies were unable to adjust rates to match changes in the cost of electrical energy (which is indexed to international oil product prices) and quickly incurred major financial losses. Facing a crisis in the reform model, in 2001 the Government undertook the direct provision of subsidies to the generators under the Global Sustainability Agreement. But the Government's inability to fund this commitment led to a further round of negotiations and crises. The results were: (i) the addition of a US$0.0055/kWh surcharge to the distribution component of the "technical tariff" from 2003 to 2017, to compensate distributors for the losses incurred between September 1999 and December 2000[128]; and (ii) the September 2002 decision to eliminate fuel subsidies altogether and increase rates to reflect the elimination of the subsidy.[129]

Eliminating the subsidy is a good idea that should have occurred earlier, to avoid the stranded cost surcharge of US$ 0.0055/kWh that consumers will have to bear for the next 15 years. The oil subsidy was not financially sustainable from the Government's perspective, and it distorted market decisions because it prevented consumers from responding to oil price changes and thus did little to reduce the country's dependence on imported oil. It must be understood, however, that eliminating the subsidy will exacerbate payment problems, as customers experience significant rate increases. With a power sector that is 85 percent dependent on fuel oil (No. 6 and No.2), and with the termination of Government fuel subsidies, higher oil prices are passed through to end-users practically on a one-to-one basis. Exchange rate depreciation also affects the cost of electrical energy directly, because oil prices, as well as wholesale and retail prices for power, are denominated in dollars. The recent decline in the peso-dollar exchange rate is therefore a matter of great additional concern. Hence the issues of lifeline subsidies and anti-theft measures became all the more urgent as a result of the elimination of the fuel subsidy. We turn to these issues next.

Lifeline subsidies. For the low-income consumers who constitute the majority of the population, affordability is the central issue. As pointed out earlier, about one-fifth of the population of the Dominican Republic live on less than US$1/day, making it unlikely for a part of the population to afford basic electricity services without Government subsidies. As part of the Global Sustainability Agreement, the Government established in 2001 the PRA to provide subsidized electrical energy to low-income neighborhoods on a transitory basis.[130] Begun on a pilot basis, the program was expanded in September 2002 after severe rioting in the Summer of 2002 which left several people dead from

[128] This was formally issued as Order 007 of the Secretaría de Estado de Industria y Comercio, dated January 5, 2001 and ratified in the Global Sustainability Agreement of February 5, 2001.
[129] Order SIE 31-2002, dated September 17, 2002.
[130] Presidential Decree 1080-01, dated November 3, 2001.

confrontations with the police.[131] As explained in the previous section, the PRA ensures that up to 18 hours of electricity (24 hours during weekends) are made available in selected low-income neighborhoods[132] by paying for 13 hours out of a RD$100m budget earmarked by the Government for 2002. The distributor provides the first five hours of supply. In addition, the PRA works with community leaders and merchants to establish a bill collection system and to educate the community about paying for electricity. Collected amounts are used to pay for the energy delivered (i.e., to recover some of the cost of the subsidy) and to invest in upgrading of local distribution facilities, including legalization of illegal connections and meter installation. The budgeted subsidy amount in 2003 is RD$80m per month, as the program is to be phased out at the end of the year.

In combining a temporary subsidy with an educational campaign, empowerment of local community leaders within a broader social agenda, and system upgrades, the *PRA is an innovative, ambitious, and well-designed program*. Specifically, the use of the "soft stick" of peer pressure on one hand (via community leaders and organizations), and of the "carrot" of system upgrades that can increase quality of service on the other, is precisely the mix of incentives that can convince many low-income households that they need to pay for the electricity they use. We were told by the PRA Administrator that the expansion of the program in 2002 was partly motivated by its success in raising collection rates; Edenorte and Edesur report that in 2001, collections in poor communities rose from 5 percent to 23 percent thanks to the PRA.[133]

To expand our knowledge about low-income urban consumers, the team attended a community meeting of over 200 residents in a poor Santo Domingo neighborhood, led by the local parish priest, Father Rogelio Cruz. Father Cruz is organizing his parish and neighborhood to receive improved electricity services from the distribution companies through the PRA. Although highly critical of the distributors,[134] Father Cruz appears to support the PRA. With strong support from those present, he stated his belief that the neighborhood's residents would pay their electricity bills in the same fashion as their cell phone, phone and cable TV bills if they received reliable service and a measure of stability in electricity rates.

Our major concern about the PRA is how to transform it into a sustainable longer-term program *that does not create an excessive financial burden for the Government* and *does not perpetuate an entitlement culture on the part of PRA beneficiaries*. Given its ambitious coverage goal of 700,000 households (of which 238,000 have been covered so far), its complex coverage procedures (described elsewhere in this report), and the fact that subsidies may be substantially below actual costs of supply (especially with high world oil prices, which effectively reduce the value of the Government subsidy), we are concerned that the program may achieve far less than it intends to by the time the money

[131] Economist Intelligence Unit, *Country Profile 2002: Dominican Republic, Haiti*.
[132] A total of 700,000 households have been identified in the country for PRA coverage. By way of comparison, there are about 1m residential customers with meters (i.e., non-PRA) in the country.
[133] Edenorte and Edesur, Informe de Gestión, Año 2001.
[134] Father Cruz is at the forefront of a nationwide petition effort to rescind the capitalization contracts with the distributors. Our understanding is that the effort faces major hurdles because a petition would not grant the right to hold a referendum or to force Government action in any direct way.

runs out. This could lead to a reversal of the progress made by then, with low-income customers reverting to illegal connections, retaliation by distributors through load shedding, and public disturbances. This should worry both the Government and the international donor community, and it would be a frustrating setback given the many qualities of the program, as previously discussed. Finding longer-term solutions to the problem of affordability of electricity supply should be a priority for the Government—and not just for the CNE, as the PRA has important anti-poverty dimensions in the form of improved access to electricity and community empowerment that are valuable by themselves.

Another subsidy program of note is the Rural Electrification Plan (PNER), which is intended to subsidize the connection of areas not yet connected to the grid or lacking electricity supply.[135] Subsidization of the electricity supply infrastructure for poor rural communities has been a feature of electrification in all high-income countries. The success of subsidies for rural electrification, in the United States and other countries, in helping reduce poverty justifies a program like the PNER. In some suburban areas, such as Los Mulos near La Romana, the PNER is in fact supplementing the PRA to upgrade the existing distribution network and organize the collection of payments for electricity supply. We heard from NRECA, which is closely involved in the PNER,[136] that the PNER took over Los Mulos as the PRA was faltering. This is worrisome news. Given limited funds for PNER and PRA, it is imperative that any jurisdictional conflict be limited. In fact, as the justification for both programs is primarily social—ensuring access by the low-income segments of the country to an essential service—it is not entirely clear that they should be run as separate programs. If the primary policy objective is established as poverty reduction through access to electricity, then the rural-urban distinction ceases to have primacy. Instead, it becomes relevant only with regard to program implementation. The mechanisms for ensuring access to electricity will vary according to population density, among other parameters. Thus solutions will have to be tailored to such factors. But overall design and funding can be unified and jurisdictional conflicts minimized.

Anti-fraud measures. For customers not covered under the PRA, the Government established in October 2002 an anti-fraud program (PAEF) formed by squads of police officers, distribution company employees, and officials from the Office of the Public Prosecutor. The squads' mission is to detect and prosecute fraudulent electrical connections and meter tampering. The program also comprises an educational campaign against fraud.[137] Apart from problems regarding the incentives faced by the PAEF administrators discussed elsewhere in this report, from the point of view of collections, the program does not appear unreasonable, although it is an unusual intrusion by

[135] NRECA estimates that 80 percent of the country's population has access to electricity, including isolated systems.
[136] NRECA is developing an extensive geographic information system for the entire country that includes information about access to electricity among many other variables, and has extensively assisted the CDEEE, as implementor of the PNER, in the development of the plan and of rural electrification programs in specific communities.
[137] The mechanics of the program, as well as its benefits and problematic aspects, are discussed elsewhere in this report.

Government into the collection process. Like the PRA, it combines a carrot (education) with a stick (potential prosecution for theft or fraud); and it is currently targeted to higher-end business and residential customers whose economic situation make the problem of theft or nonpayment, at least in most cases, clearly a willingness to pay problem—in other words, a law enforcement problem.

An important item regarding collections is the payment record of the various legal entities that are part of the public sector. The information we have seen from the distributors shows that after residential users, public sector users have the worst payment record[138]. Among the agreements posted in the CDEEE website, we have seen an agreement on "non-suspendable" Governmental users of electricity, dated September 23, 2002. This appears to be an attempt to define priorities for supply within the public sector, which cannot be cutoff despite non-payment. We did not see the list or learn how entities qualify to be on the list, but we are concerned that if the list is excessive or is used to favor certain entities in return for political favors, then it will undercut the pressure on those Government entities to pay their bills.

Although some pages of the agreement are missing in the posted version, it appears that the CNE will be in charge of processing all invoices for electricity supply to these users, via the Ministry of Finance, and a specific item will be included in the Government budget for payment of electricity supply to these users. Although it is too early to judge the success of the agreement, to the extent it commits the Government more strongly through a dedicated budget allocation and an agency (CNE) in charge of payments, it should lead to an improvement in the Government's payment record. As for Government users not on the "non-suspendable" list,[139] we might expect that with the elimination of the fuel subsidies and the conclusion of PPA-related negotiations (see below), the pressure on Government finances would decrease, and the public sector payments record would improve. But there is no certainty, as new financial priorities and emergencies could easily arise. For this reason, it is important to set up additional measures to ensure the financial discipline of the Government. The first step in this regard should be to understand the reasons for the problem: is it an administrative problem, e.g. delays in processing and controlling the paperwork, or is it an actual cash flow problem? Solutions should then be tailored to the root cause. Administrative reforms—such as centralization at the CNE, or at some other Government entity—can streamline the paper processing and control process; cash flow problems can be solved through credit lines and similar arrangements unless the Government is insolvent, which does not appear to be the case at this time.

Altogether, then, the Government is providing substantial support (the "carrots") to the distributors through the PRA, the PNER, and the PAEF, to increase collections, deter and prosecute fraud, and improve the quality of distribution networks. Similarly, it is using the "stick," on distributors. As of January 1, 2003, distribution companies face a new quality of service measurement system, which will penalize distributors and other

[138] In 2002, Edeste was collecting less than 5 percent of the amount owed by Government clients in the average month; Edenorte and Edesur were able to collect most of the amounts owed by the central Government, but no more than 42 percent of amounts owed by municipalities.
[139] The Team has not seen this list.

parties responsible for unscheduled interruptions as set forth in the July 2001 Law (Art. 93) and Reglamento (Order SIE-56-2002). Penalties to generators are based on a new Value of Lost Load of RD$ 26,464.9/MWh, or about US $1,300/MWh (order SIE-54-2002), which is based on estimating the cost of alternative supply such as diesel generators and batteries. Stiff penalties will be assessed against generators, ETED, or the distributors for exceeding the limits set by SIE on unannounced supply interruptions (150 percent of the cost of the un-served energy, at the applicable regulated rate[140]). The same penalties will be imposed on generators and on ETED whenever the CO determines that a service interruption was caused by generation or transmission, respectively.[141] However, there does not appear to be an exemption for service under the PRA program, which contemplates a supply of 18 hours per day during weekdays. Without an exemption from the penalty provisions of the neighborhoods covered (or to be covered), the distributors will face sharply higher costs of service for the PRA-covered areas which appears to be a conflict between these two programs. Thus, the exemption from the PRA is necessary to avoid further financial turmoil in the sector.

2.12.2 Transmission Tolls

The second weak point is the level of transmission tolls, which are also regulated. Transmission tolls are computed, according to the July 2001 Law and its implementing regulations, using the replacement value new of an optimized grid design as well as O&M costs. Tolls should therefore be adequate for the recovery of expansion investment. The problem arises in the use of transmission charges as a bargaining chip in negotiations with the distributors and in PPA renegotiations, which will significantly reduce ETED revenues. The Sectoral Framework Agreement executed in 2001 included a reduction in transmission tolls reflected in orders SIE-17-2001 and SIE-31-2001. This reduction apparently does not allow ETED to cover its full capital costs computed according to the July 2001 Law's methodology. Attempts by the SIE to alter the situation have been successfully appealed by the distributors.[142] In addition, all renegotiated PPAs, with only one exception, exempt the affected plants from payment of transmission

[140] July 2001 Law, Art.93, Para.I. The law also specifies that this penalty will apply starting on January 1, 2003.

[141] The renegotiated PPAs between the distribution companies and CDE, Itabo, Haina, and La Vega all include penalty provisions for unscheduled interruptions according to the applicable law. Again, it is important to note that, according to the information we reviewed and to the different parties we interviewed, blackouts appear to correspond to a mixture of load shedding by the distributors to conserve financial resources in the case of districts with low collection rates, and lack of availability of generators due to financial reasons.

[142] Footnote deleted.

[142] Order SIE-01-2002 setting the base toll (December 2000 value) at RD$ 42.50/kW-month (US$ 2.66/kW-month at RD$16 per US$) was repealed by SIE-28-2002, which set the base toll (August 2001 value) at US$ 2.285/kW-month. SIE-31-2001 had set the base toll (December 2000 value) at RD$ 28.17/kW-month. SIE-17-2001 set the base toll (December 2000 value) at US$ 0.006/kWh (US$ 3.94/kW-month at a 90 percent load factor).

tolls[143]. Altogether, these concessions will surely impact the ETED's financial resources in a negative way.[144]

Although ETED remains in the public sector as a wholly-owned CDEEE subsidiary, the risk of transmission congestion will be substantially increased if ETED has to rely on the public sector budget to obtain sufficient financial resources to operate and expand the transmission grid.[145] Moreover, there is no certainty that private investment would cover ETED financial shortfalls. The July 2001 Law provides neither clear mechanisms for private investment in transmission facilities, nor incentives for market participants to invest in transmission, as transmission congestion costs do not alter the total transmission charge payable by grid users. The only private investment in transmission at present are major connection lines (for AES and for Caterpillar), which are being built by the private sector under BOT arrangements.

Again, as in the case of hydroelectric facilities, but now more urgently, it is unwise to leave untouched the prohibitions of the July 2001 Law for private investment in transmission. Important new investment must be undertaken in order to meet demand increases and improve the reliability of the grid. These investments cannot depend solely on the initiative of CDEEE management. Although centralized transmission planning and charging mechanisms will be needed for the foreseeable future, these functions can be entirely delegated to the CO, which is already responsible for calculating the amounts due for transmission service (Articles 364 and 368 of the Reglamento). As an entity where the interests of generators, distributors, and other market participants should be represented, the CO is well placed to facilitate discussion and agreement on transmission system upgrades as part of a transmission planning process. Once the plan has been defined, it can be submitted to the SIE for inclusion of the additional costs in the transmission tolls. The actual projects can be auctioned off to the lowest private sector bidder, under concession, Build-Own-Transfer, or some other such scheme, whereby the successful bidder provides the capital to build the transmission facility and then recovers the bid amount over time, through transfer of part of the transmission toll revenues. Such a system would provide a sound basis for private investment in new transmission facilities without requiring the privatization or capitalization of ETED.

[143] We have been able to check this fact in the renegotiated contract between CDE and CEPP (Puerto Plata).

[144] In this regard, we note that SIE-17-2001 has not been implemented because ETED does not yet have the metering equipment needed to compute congestion costs, although this wouldn't have an impact on transmission tolls because congestion costs are simply deducted from connection charges in the calculation of total transmission charges.

[145] So far, 15 percent of current transmission projects are being funded with CDEEE's internal resources and the remainder through foreign bank loans with sovereign guarantees.

2.12.3 Wholesale Power Prices

The third and last weak point is the level of wholesale prices for electrical energy and capacity that distributors pay on behalf of their regulated customers. In the Dominican Republic, these prices are largely driven by the levels stipulated in the PPAs executed prior to reform by the CDE, as modified by the subsequent renegotiations of most of these agreements, since about 80 percent of the energy and capacity purchased by the distributors comes from the PPAs. In any case, however, it must be borne in mind that about 85 percent of the electrical energy generated in the country comes from oil[146], which has to be imported in its entirety. Even under the best terms for the PPAs, the dependence on oil imports exposes the country to significant hardship if oil prices rise significantly. This is important because it sets significant limitations about what can be done about the cost of electrical energy in the country, at least in the short term.

The volatility of world oil prices and the current high world oil price of over $36 a barrel has adversely affected the financial position of the electric power sector in the Dominican Republic. The country consumes a total of 140,000 barrels of oil products a day, and maintains a 10-day reserve. The oil price increase of $18 per barrel over the past year translates into an additional Government expenditure of about US $2.5 million per day.[147]

As most of the generators with PPAs burn oil fuels[148], the generators have been directly affected by the financial difficulties experienced by the sector with regard to the issue of fuel subsidies. Both the distributors and the CDE, as the only buyer under the original PPAs, have had difficulty meeting payment obligations to the generators. PPA servicing has continued to be a severe drain on Government finances.[149] According to the Government, in January 2002 alone, for instance, the difference in CDE's cost of purchase from seven PPAs[150] and the value of the energy in the spot market amounted to US$3.7 million. At times, arrears have accumulated enough for the generators to turn their plants off rather than provide further credit to the buyers. This means that despite the ample margin of installed capacity over peak demand in the country, reliability is severely compromised as some plants are not running, according to the information from the CO mentioned above.

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[146] Computed at the coincident peak. Figures from presentation by George Reinoso, CNE Executive Director, Miami, Florida, January 31, 2001.

[147] The West Texas Intermediate(WTI) price was at $17.65 per barrel at the beginning of January 1998. It reached a low in early February 1999 when WTI bottomed at $10.26 and Brent at $9.70. Prices then moved steadily upward with the WTI price peaking at $34.15 in March 2000. After September 11th, oil prices fell substantially, hitting lows of about $18 per barrel over the period November 2001 through February 2002. WTI is currently trading(March 7, 2003) at over $36 a barrel.

[148] Mostly residual fuel oil (RFO, or No. 6 oil); gas oil or No. 2 oil, in the case of the Cogentrix project.

[149] To reduce the debts it owes to generators and distributors, CDE is resorting to a variety of loans and promissory note issues and tapping the dividends obtained from the state's share in the capitalized firms (H. García, "Current Situation and Prospects of the Power Sector Reform," n.d., p.2)

[150] Smith-Enron, Cogentrix, CEPP I, CEPP II, Metaldom, Laesa, and Maxon.

In response to this situation, the Government has undertaken, through the Commission on Electricity Sector Sustainability, to repay any arrears due under the PPAs and to renegotiate the PPAs with two objectives: (i) to assign them to the distributors now that the fuel subsidy has been eliminated and CDE (or its successor CDEEE) has no intermediary role to play; and (ii) to buy down or buy out the contracts so as to reduce the burden they place on regulated rates.[151] As of mid-December 2002, the Government had paid out a total of US$ 185m for arrears owed to the IPPs over the previous three months; another US$ 157m remained outstanding.

So far, the Government has renegotiated all of the PPAs except for Cogentrix' (San Pedro de Macorís), although several of the renegotiated agreements have not been signed in expectation of the final arrears payments owed by the Government. In some cases, such as Transcontinental Capital Corp. (112 MW), the PPAs have been terminated and the plant has become fully merchant; in other cases such as Puerto Plata's unit 2 (50 MW), the contract has been assigned to the distributors, in this case Edenorte and Edesur. The PPAs between the distributors and CDE, Haina, and Itabo have been renegotiated to reflect 20 percent lower energy and capacity prices and symmetrical (up and down) price escalation clauses[152]; to allow distributors to reduce contracted capacity as large users enter the wholesale market; and by applying the same penalty regime faced by the distributors for unscheduled supply interruptions. In exchange, the term of the agreements has been extended to 15 years starting in 2001. All of the renegotiated contracts have been vetted by the SIE.[153]

In general, the PPA renegotiation process appears to have been sound. If the reputation of the country with foreign investors is to be maintained, the contracts cannot be unilaterally rescinded by the Government. As a result, the Government probably had little choice but to pay the amounts in arrears. At best, these amounts can be included in the renegotiation process, with the idea of convincing the seller to give up some of the amount as irrecoverable, or of spreading repayment over an extended contract term, as was done in the case of the distributors with the 15-year VAD surcharge. Attempting to convince the sellers (and lenders to the IPPs) that contract amounts are irrecoverable is a risky strategy, as it can tarnish the country's reputation and the Government's commitment to the sector's reform. And repayment over an extended term could not be accommodated given other renegotiation objectives such as lower prices. Thus, the actions of the Government with regard to payment of arrears do not seem unsound. Other actions of the Government in the renegotiation process also seem reasonable. The Government has traded off contract term extensions for lower prices, better penalty provisions, and flexibility about contract capacity levels. We have already explained why contract term extensions are unlikely to negatively affect competition in the wholesale

[151] Of course, to the extent the renegotiated prices continue to be unacceptable to ratepayers, PPA assignment will only transfer the financial crisis from the CDE to the distribution company owners—which include the public sector itself under the terms of the capitalization agreements.

[152] The escalation clauses in the original contracts only ratcheted prices up if, for example oil prices increased; if oil prices decreased, PPA prices were not adjusted downward. The new clauses allow the downward adjustment.

[153] SIE has affixed a statement to each contract stating that he has examined and approved the terms of the renegotiated contract for purposes of pass-through to ratepayers in the next rate review.

market. The pricing, penalty, and capacity level concessions obtained in exchange for the contract term extensions increase consumers' ability and willingness to pay for the contracted capacity and energy, increase the consistency of contract terms with quality of service regulations and penalties, and make it possible to lower the market access threshold for large users without adverse financial consequences for the distributors.

At the same time, the Cogentrix PPA remains a significant unresolved matter because of the large size of the plant (300 MW), the amount of money involved, and Cogentrix' strong negotiating position (the contract was competitively bid, approved by the Dominican Senate, and enjoys international guarantees). Since the plant was recently commissioned, the full buyout cost is close to overall plant cost at US$ 300m. The Government obviously wants to minimize the total payment, so it is proposing instead to make the plant merchant and to add the capability to burn natural gas[154] (to be supplied via AES' LNG regasification plant near Santo Domingo). The estimated cost of contract buyout under this scenario is in the order of US$ 200m. In our conversations with Government officials, the possibility was mentioned of obtaining a loan from a multilateral institution such as the IDB to pay for the contract buyout. If the loan does not unduly burden the increasingly heavy foreign debt load of the Dominican Republic, it may be the only solution to the impasse. The Government seems to lack the money to buy out the contract in the short term, while the cost of the current situation, in terms of the impact on blackouts and their effects on collection rates, is too high to ignore. As a 300 MW plant, the Cogentrix plant has a significant impact on the ability of the interconnected system to meet peak demand levels. *Getting the Cogentrix plant back on line is thus necessary if blackouts are to be minimized* and this last element of the financial sustainability of the sector is to be settled.

To conclude this section, then, it is clear that while much has been done in recent months to ensure the financial sustainability of the sector, important areas remain to be finished or strengthened.

- *First*, the current PRA program, although effective and well run, should be temporary, and transformed into a different, sustainable program that does not create an excessive financial burden for the Government and does not perpetuate an entitlement culture on the part of PRA beneficiaries; consideration should be given to some coordination with the PNER to tackle the problem of ability to pay for electricity in the country.
- *Second*, the Government needs to develop stronger commitment mechanisms to pay for the electricity that Governmental entities consume, beginning with an understanding of the causes of this problem.
- *Third*, the PRA needs to be excluded from the penalties for service interruptions, to avoid plunging the distributors back into severe financial difficulties, and recognizing the special nature of the supply problem in the communities covered by the PRA.

[154] As the plant currently burns expensive #2 oil, shifting to gas would probably improve its standing in the dispatch merit order considerably and thus its profitability as a merchant plant.

- *Fourth*, explicit mechanisms must be developed for private involvement in the expansion of the transmission system.
- *Fifth*, renegotiation of the Cogentrix PPA must be completed to finally resolve the stranded cost problem posed by the pre-reform PPAs and to put the sector on a more secure financial footing.

3.0 RECOMMENDATIONS FOR SUSTAINABILITY OF SECTOR REFORMS

3.1 SECTOR ARCHITECTURE

Pending finalization of the CO governance structure (*see below)*, we find that the fundamental institutional elements necessary to support a viable power sector have been put in place. Although capacity building and adequate resources must be given to support the institutions, there do not appear to be any fundamental "institutional gaps" in the design of the sector as set forth in the July 2001 Law and Reglamento. Gaps do exist however in the detailed definition and implementation of institutional roles and responsibilities. *Considerable confusion exists as to where the lines are drawn between Government and private sector responsibility as well as among the various Government agencies, especially during this transition phase where the second generation of reforms is underway*. Important issues that relate to traditional notions of "doing business," patronage politics and Presidential participation should also be addressed to assure that they do not obscure institutional credibility and ability to function.

The three most critical institutions in the sector are SIE, CNE and the CO. We recommend that the function and jurisdictional limits of these entities be clearly institutionalized and strengthened so that they perform their required function in the sector.

3.1.1 Superintendency

Actions to Ensure Independence of the Superintendency

1. Under the July 2001 Law, CNE has a close relationship with the Superintendency. Among other things, CNE issues regulations that have superior legal ranking over the resolutions that SIE issues, meaning that SIE must follow the lead set by CNE. CNE also has authority to review decisions by SIE, although we were told that its review is limited to SIE's application of the law and does not include a review of SIE's fact-finding. This relationship undercuts the independence of SIE because, among other reasons, SIE must follow the regulations issued by CNE that is part of the Executive Branch. *The potential for political meddling in SIE's decisions is too great to allow this relationship to continue in the long term; we recommend that CNE only serve as a policy entity and that SIE derive its authority directly from a statute.*

2. *Build SIE Commissioner and Staff Capacity.* As long as the commissioners and staff lack the requisite technical, legal and financial capacity to develop, monitor, implement and enforce the regulatory regime, excessive reliance on CNE, CDEEE and other institutional expertise will be required. This dependency threatens the independence of the Superintendency. Therefore, we recommend that:

- *A comprehensive organizational plan and set of job descriptions* should be developed. Although there is some organizational plan in place, it seems that SIE would benefit from a more carefully designed organizational plan with carefully drafted job descriptions for all positions. This will include how SIE departments and various positions relate to one another.

- *Improve Staff training/capacity building.* Over the next two years, *SIE should be strengthened by adding power sector professionals* with skills in finance, auditing, accounting, utility management, engineering, as well as in transmission, distribution and power grid management. All staff should receive training in regulatory processes, various phases for engagement with regulated and non-regulated organizations, and public affairs. In the short term, SIE may share expertise in transmission, power grids and wholesale market operation with the CO, provided it maintains effective separation of decision-making functions.

- *Improve the auditing and enforcement division of SIE*. SIE should consider establishing a set of regulatory accounting standards and regular filing requirements for all jurisdictional companies. The enforcement division should be fully staffed with qualified investigators so that they may vigorously pursue possible violations in regulatory compliance matters.

3. *Improved internal processes*. SIE should establish a comprehensive docket system to track and monitor all proceedings that have been initiated and all pleadings that have been filed with SIE. Rules of procedure for announcing SIE public meetings should be established.

4. *Improved rules of procedure*. SIE should promulgate detailed rules of procedure that complement the procedures set forth in the Reglamento, including procedures for public participation, and deadlines for filing pleadings, answers, protests, public hearings, use of court reporters, etc. These rules will serve as the basis for all regulated companies without discrimination. Strong rules prohibiting *ex parte* communications with persons outside of SIE on matters pending before SIE should be published.

5. *Improved public participation in SIE proceedings*. SIE should encourage public participation in all SIE proceedings, especially ad hoc groups such as consumer, industrial, commercial, agricultural, and other groups. An Office of Public Affairs should be established to communicate, on a regular basis, with the public and market players and provide information on how to participate in SIE proceedings.

6. *Physically relocate SIE and CNE*. SIE and CNE currently operate in the same building. Consideration should be given to relocating these offices to different physical sites so as to minimize perception of co-mingling these functions.

7. Under the July 2001 Law, the Superintendent of SIE also serves as the President of the Coordinating Organism. *This dual role for the Superintendent is an inherent conflict of interest and should be eliminated*. We have no objection to the Superintendent attending CO meetings as a passive observer, but the Superintendent should not be managing both the independent regulatory agency *and* the private organization that oversees the spot market, which itself is subject to SIE jurisdiction. Any participation by the Superintendent, including the power to cast a tie-breaking vote, poses the risk of conflict of interest. *Because this role is established by the July 2001 Law, we recommend considering an amendment to that Law*

8. *Reduce Presidential Participation.* Whether *actual or only perceived*, the injection of presidential politics into the decision-making processes of SIE must be eliminated and any inference that these two offices are linked must end. Although it is important that SIE has the confidence and support of the Office of the President, the perception that that Office guides the SIE on pending matters is detrimental to SIE's credibility as an independent institution. We recommend an actual "stepping back" of the Office of the President and other Government offices from SIE regulatory actions. In furtherance of this goal, *SIE should promulgate strict rules prohibiting ex parte communications* by any non-SIE person with an SIE employee, and *the public and other Government agencies should not seek to engage in such ex parte communications*.

9. *Develop an SIE internal work plan and submit an Annual Report.* Although some collaboration with CNE and other Government institutions is expected, SIE should develop its own work plan so it can claim ownership of that plan. Items that should be addressed in the plan as well as the time frame for addressing each item include:

    - Appropriate budget projections and financing of SIE;
    - Improved clarity of process (docket system, hearings, notice provisions);
    - Training for staff (by category of training, e.g., tariff, regulatory process, audit and enforcement proceedings, etc.);
    - An Office of Public Affairs for media relations and dissemination of information; and
    - Detailed work plans for each department, including PROTECOM

SIE should be required to submit an Annual Report to Congress, stating, among other things, its perception of the sector, suggestions on statutory changes to its authority or changes to the sector, the number of cases it has processed and anticipated case load, staffing levels and future needs, etc.

10. *All SIE Commissioners and Staff should refrain from engaging in public debate*. It is evident from numerous press articles, press conferences, Congressional hearings, and similar media events, that there is considerable debate among high level officials about the reforms in the electric sector. Such debate may well be healthy for the sector and help educate the public about the reforms. However, SIE Commissioners and Staff should refrain from engaging in that debate, so as to maintain the integrity of the regulatory body and preserve their objectivity as pleadings and cases are filed before it. *An Office of Public Affairs, opposed to commissioners or other staff, should handle all media relations*.

11. *The role of the Commission on Electricity Sector Sustainability that advises the President on sector reform and operation needs to be more clearly defined*. Its high-level role in sector decision-making may not be the best use of Presidential prerogative at this time. In fact, the work and operation of the Commission may serve to undermine the level at which SIE, CNE and other institutions are able to function. We recommend that the objective and role of the Commission be made clear and published. To prevent further confusion in the sector, the Commission should remain, at most, an ad hoc advisory council, and should not be formalized in any statute.

3.1.2 National Energy Commission (CNE)

Although the basic role of CNE as a policymaker seems to be well understood by the sector, there is apparent confusion as to CNE's role on specific issues, primarily concerning regulatory aspects of the sector. This can be attributed to the newness of SIE and lack of sector experience in its leadership compared to CNE members who have more experience. As SIE staff builds its capacity, this confusion should be reduced. It is important that SIE not act or be seen as part of CNE but rather, that these institutions maintain highly separate operations. Therefore, we recommend that:

1. C*NE's authority to review SIE decisions should be eliminated* and that appeals be taken directly to a judicial branch of the Government, such as the Administrative Law Court or other appropriate court. This issue may be addressed by careful review of the legal documents that authorized CNE to review SIE decisions, e.g., the Reglamento and Modifications thereto.

2. *CNE's rulemaking authority should be eliminated* and SIE should be allowed to derive its authority directly from the statute.

3. The July 2001 Law should be amended so that *CNE does not have tie-breaker voting authority over SIE decisions*.

4. *CNE and SIE offices should be physically separated*. In addition, immediate capacity building should be started for SIE so as to reduce its necessary reliance on CNE and others entities for technical assistance.

5. *Improve Staff training/capacity building.* CNE staff would benefit from a better understanding of the operation of the sector, including SIE's role, and should attend many of the training courses that SIE staff attend.

6. *CNE should issue improved rules of procedure.* These rules would cover public participation in it rulemaking process and any appeals from SIE decisions and improve the transparency of that decision making process.

3.1.3 Coordinating Organism

The CO plays an important role in managing the spot market, and it is important that its role be clearly defined so that all sector players understand how the market operates. Therefore, we recommend the following:

1. *Finalize the CO governance structure*. We remarked on the excessively slow process of consolidation of the CO, both in terms of its governance structure (as established in the corporate by-laws), conditions for members to participate in the market, and participant charges. Provisional governance and financial arrangements create uncertainty among market participants, which may deter investment in the sector. *To avoid further delays, we suggest that the CO By-Laws be finalized immediately*. Members of the CO and others should clearly understand the terms and conditions under which this organization operates, thereby improving the understanding and perception of this critical organization.

2. *Amend the Composition of the CO Board.* We recommend that the July 2001 Law be amended to provide for a more balanced governing Board. We suggest the following composition of its governing Board, with equal voting rights: all generators regardless of ownership (EGEHID should simply be one more generator entity participating in the election of generator representative(s) to the CO board); transmission (ETED at the time); distribution; large users; and perhaps, regulated consumers (an odd number would facilitate decision-making by avoiding deadlocked votes). User representation can be structured through two separate mechanisms: large users participating directly in the market can elect a representative among themselves; and regulated users can elect a representative through consumer organizations and business associations, such as the Fundación por los

Derechos del Consumidor (FUNDECOM) and the Consejo Nacional de la Empresa Privada (CONEP)[155].

3. *Calculation of participant charges. We recommend that as part of the elaboration of the CO's by-laws, a system for the calculation and payment of CO participant charges be put in place.* The computation of charges should be straightforward, as the principle is already stated in the July 2001 Law, once the commercial information system allows a precise measurement of participant transactions in the market.

4. *Incorporate EGEHID and ETED so they can assume their membership roles. CDEEE has the responsibility for incorporating these entities.* These members need to be incorporated and placed on the CO governing Board so that the CO management team can lead the CO on market developments.

5. *Development of a Public information function.* We did not hear any complaints about the communication and information aspects of how the CO is currently operating. However, for future operations and to preserve institutional memory, some consideration should be given to establishing an information function at the CO where data is maintained, minutes of CO meetings and history of the CO actions, agenda priorities and other materials that track the work of the CO (news clippings, memos).

3.2 GENERAL SECTOR REFORM

3.2.1 Development, Publication and Implementation of Government Sector Reform Strategy

The publication of Government's sector reform strategy can help to legitimize reform.[156] The development of the strategy should sufficiently include participation from stakeholders prior to completion. In the development of the strategy, facts (e.g., social impact work of World Bank) must be taken into consideration and appropriate responses developed. Prioritizing the reform measures, providing definite reform action items as well as a timeline for implementing them can allow for an appropriate level of stakeholder expectation, give potential investors an idea of Government's intentions and direct institutional priorities for action.

[155] For instance, the SIE can invite CONEP and FUNDECOM to choose a person that would represent business and residential consumers, respectively, or a representative can be randomly chosen from a list of candidates where one half of the names is proposed by CONEP and the other half by FUNDECOM.

[156] There is an Electricity Sector Policy Declaration (Declaracion Politica para el Sector Electrico), undated. It includes model of organization of the CDEEE's debt management dated February 2002 and Rural Electrification. Plans for various regions of the country, dated January through July 2001.

3.2.2 Establish a Sector Reform Task Force

We have some concerns that there is no single entity that is overseeing the reform efforts from an objective and broad perspective. To some extent, CNE performs this function, but CNE's role also needs to be reviewed, and it cannot perform that function objectively. At the risk of creating another, albeit temporary, institution, consideration should nonetheless be given to establishing *a Government Sector Reform Task Force*. The Task Force would establish baseline data as to how stakeholders currently benefit from sector operations, tracking changes in performance based on data that may include cost of power, access, reliability. The Task Force differs from the Presidential Supervisory Council in its composition and role. The Task Force would ideally exist no longer than two years and might include one or two international advisors. *The Task Force would report to CNE and be responsible for publishing bi-annual impact assessments.*

- The Task Force would be responsible for assuring that programmatic institutions (PRA, PAEF) carry out their mandate and either close operations or are transitioned to a clear institutional role, either stand-alone or as part of an existing institution.
- The Task Force would also monitor implementation of the law and possibly make recommendations on improvements to address vagueness and gaps in the existing Law as reform continues[157]. *An in depth assessment of the Law, the Regulations and SIE Resolutions should be made in the next three months.*
- The Task Force could monitor the development of regulatory processes to assure that a balanced approach that includes the various regulatory aspects of sector oversight is ongoing.

3.2.3 Define further roles and responsibilities of institutions for each institutional mandate, methodology for implementation.

1. *Define the Role, Responsibility, Jurisdictional Limit of Government and Government Institutions as they relate to the Sector.* The roles of Government in sector operations often conflict and can serve as a source of confusion for sector players and customers. As illustrated in Table 11, Government has many roles in the sector. It is essential that sector players know what role each Government institution is responsible for and which objective the Government seeks to promote via that institution. For example, even after the restructuring, the Government remains a substantial entity in the marketplace with power to influence decisions. Consideration should be given to reducing the Government's role in the sector, e.g., *privatizing the transmission and hydro sectors, terminating PAEF after a fixed period of time, reducing it representation on the CO Board.*

[157] This is often a role played by a non-Government energy, legal or other institute as well as various Governmental commissions.

2. *Institutional Work Plans.* As reform progresses, it is important that each institution's mandate is clearly defined by its role, responsibility and method for implementing its mandate. This definition goes beyond what is presently contained in law. At least for this transition period, institutional work plans from each involved institution will help institution staff identify key benchmarks for performance as well as inform the public and market players of each institution's definite role and responsibility. We suggest that these be completed by May 1, 2003. Some items that the work plans can address:

- *Indicators of success* for each institution. (e.g., for Protecom, targeted percentage level of successful consumer protection actions; for PAEF, successful prosecutions, percentage of increase in payments).
- *Timeline for performance* of certain actions.
- *Program targets matched against budget costs.* Develop a detailed plan on how institutions will be financed (e.g., use the constitutional processes and do not duplicate PAEF financing scheme).
- *Staffing plans.* Short- and long-term.
- *Training Plan.* As part of the Institutional Work Plans, a Training Plan, based on a Training Needs Assessment, should be developed that includes topic areas, number of staff to be trained, financing for training and most importantly, a realistic timeline for training. In light of the recent establishment of so many institutions there is tremendous opportunity to share costs based on overlap of staff technical training needs. (*see sample topics, attached at the end of the Recommendations' section).*

Table 11
Multiple Roles of Government

- It is a *substantial shareholder* in some of the generation companies and in all the distribution companies (FONPER);
- It is a *regulator* for the sector (SIE);
- It is a *protector of consumers* (SIE);
- It is a *policymaker and planner* for the sector (CNE);
- It is a *sector player* in the market (CDEEE as sole owner of hydro and transmission facilities);
- It *provides subsidies* for low income people (PRA, PNER);
- It is a *consumer* of electricity; and
- It is an *enforcer* with prosecutorial powers (PAEF).

3. *Publication of Institutional Processes and Procedures.* The regular, clear and timely publication of processes and procedures is important, especially as reform of the sector continues. Government should consider the development of a monthly newsletter, e.g., published by CNE, that publishes summaries of new resolutions that regulate processes and procedures, other institutional process and procedure information, general information about sector reform, finance, etc.

3.2.4 Consumer Protection and Participation

The public distrusts the distribution companies, and for good reason—meters are often inaccurate, billing cycles exceed actual days in the month, quality of service is poor, rates are high, etc. Immediate steps need to be taken to improve this relationship and obtain the public's endorsement of the reform efforts.

1. *Additional Protecom offices should be immediately established, staffed and operational* (establish a time line for completing this goal). This will restore some customer confidence and keep companies on guard; can be valuable tool to collect anecdotal information and disseminate information.

2. Building consumer confidence and support. *The following steps should be taken to help build consumer confidence:*

   - Regular consultations of the distribution companies with community organizations and consumer groups to improve customer service and assess client satisfaction.
   - Improved customer relations by means of consumer campaigns, educational pamphlets, easier means of payment, etc.
   - Establish a consumer advocate within the distribution companies reporting directly to the CEO and to SIE via Protecom, to coordinate all quality of service aspects and provide a visible and answerable presence in matters of customer service.

3. *Increasing Public Participation.* Public participation should be encouraged in public decision-making processes, such as proceedings before SIE and CNE. Consumer groups and other coalitions (e.g., financial, commercial, industrial, agricultural) should be educated and encouraged to use the formal processes available before those entities to express their views and have those views considered before a final decision is issued.

4. *Discussion*. In addition to overall development of reform policy, we attach high importance to initiating a *discussion* within the Government or even within the Dominican society (perhaps through the newly-created Pact for Stability and Economic Development), about the merits of the recommended combined program. The discussion should involve the collection of information about the affordability of electricity supply among low-income households. By the end of the calendar year 2003, these efforts must be translated into actual *policy initiatives* to go beyond the PRA in addressing equitable access to electricity supply. In our opinion, such policies are of great importance for a long-term solution to the financial viability problems that have plagued the electricity sector over the last decade.

The main entity to lead policy discussion and design exercises should be the Social Cabinet, as it has the most extensive involvement in, and information about, poverty and service affordability in the country. But it is also necessary to involve other parts of the Government that have to give their assent to any initiative: at the very least, the Department of Finance under its role of raising and allocating Government finances; and the CNE, to oversee the fit between socially-oriented policies and the country's energy policy.

3.2.5 Improve Public Information and Awareness.

There is strong evidence from the experiences of other countries that institutional reforms are broadly accepted when the public participate actively in the design of new reforms and institutions. *Participation helps to legitimize reform. Public information campaigns led by the Office of the President, should be implemented to emphasize that reforms benefit all groups in the society. Such campaigns could include press conferences, articles in the press, and educational programs on television and radio*. By providing reform information, Government can set informational targets to help change customer and business mindset and remove existing thinking of "entitlement". *We recommend:*

1. *Government Sector Reform Spokesperson* (e.g., 2 years). This individual will speak on behalf of the Sector on the whole with emphasis on reform matters, thereby reducing the information role for the President, CNE and SIE. The individual would likely be a senior staff member at CNE or the Office of the President but would not be the Executive Director of CNE or SIE personnel. This individual would conduct regular briefings on sector reform.

Key points to include in current agenda for public debate – through the course of developing its strategy, Government will need to pay close attention to certain issues that require public and private sector input if to be sustained. Examples of questions to be pursued:

- *Social Impact Assessment*– e.g., how will Government know it is succeeding?
- *Blackouts* are overshadowing all other sector development issues, e.g. contracts, etc. – how Government, consumers and business can work together to eliminate blackouts.
- *Reglamento* – consumers seeking connections must prove they own their own house – this is discriminatory against the poor but at same time, they can obtain squatters' rights. Government needs to deal with this.
- *Presidential Role* in the sector – people clearly believe the President's role in the sector is direct; increased awareness on institutional roles will assist Government in securing reform.
- *Governance of the sector* would be complete with creation of hydro and transmission companies. Companies and investors would benefit from understanding the Government's plan in terms of how they view future investments in the country.
- *Sanctity of Contracts* – ongoing awareness at the customer, business, Government and judicial level would be of great benefit to sector reform.

2. *Target information during transition.* In this regard, Government needs to identify real institutional roles to address habits and psychological impacts and reduce confusion. For example, investors receive little or no information about potential investment opportunities (e.g., transmission, hydro) which promotes a

hesitance among investors in exploring possible sector opportunities. A review the forums in which ideas can take place should be conducted and action programs commenced; some examples common in transition settings are: *Student Education Program; Meter Awareness Campaign* (enhance SIE – "how to read meter"); and *International Investor Information (*can include donors).

3. *Media training.* Government's ability to disseminate information on reform will be facilitated if there is a group of journalists who understand the sector issues. Government, specifically CNE, can take the lead in working with interested journalists to educate them on the more technical and legal aspects of private energy markets; e.g., describe the pricing system, Government subsidy schemes, how to save energy, etc.

Media workshops for journalists will build media competency about sector issues. This training will ultimately benefit Government because a pool of "energy journalists" will emerge that will be able to convey key points about the sector to citizens.

3.2.6 Develop Stronger Commitment Mechanisms for Payment of Government Electricity Bills.

The collection data that we have obtained from the distributors show that the Government is a major cause of the revenue shortfalls experienced by the distributors. This situation imperils the financial sustainability of the sector. Our recommendation consists of two steps:

- the causes of payment arrears by Governmental entities must be understood—whether the arrears are caused by real cash flow limitations, or by administrative inefficiency or other reasons; and
- appropriate solutions must be developed. For instance, if the problem is administrative, bill processing can be centralized at the Comptroller's Office; if the problem is cash flow, then appropriate financial and accounting reforms should be implemented.

3.2.7 Performance Contracting

As a party to the management contract, the Government is entitled to monitor the performance of the contract. Audit rights may also derive from those contracts, depending on their provisions. Similarly, as a substantial minority shareholder in the distribution companies, the Government is entitled to its shareholder rights, which normally include the right to monitor whether management is making prudent business decisions for the company and ultimately the shareholders.

As discussed further in Section 2 of this Report, we recommend that the Government review its legal options to initiate renegotiation of the management contracts, with a view to replacing the current contracts with performance contracts. Among other things, the performance contract should be designed:

- To impose a *clear requirement that the distribution companies be held to a standard of prudent business practices,* so that profits and ultimately dividends can be realized and all shareholders can share in these profits according to their shareholder interests;
- *To terminate load shedding, to improve quality of service, to require investment in system upgrades, and to establish clear targets for increased collections and reduced losses*. Even though losses have declined substantially, they are still high by international standards and financial viability will not occur unless theft and technical losses are substantially reduced;
- To use a formula which computes the *2.75 percent management fee based on the amount of revenue collected,* rather than on the amount invoiced. The contract should specifically provide for the transfer of technology and technical services as originally anticipated, and define the specific forms of technology transfer and technical services to which the management fee will be tied;
- *To require regular, transparent and independent financial and technical audits of the distribution companies*.

3.2.8 Modify the Current Regulations for Street Lighting Quality

Order SIE-55-2002 of December 18, 2002 created a quality of service regime for street lighting, which as Edenorte and Edesur data shows, appears to be plagued by some of the worst collection problems. As an interim solution, SIE allowed municipalities to postpone paying for street lighting service until an inventory of street lighting equipment is conducted. Since the inventory requires personnel from the municipalities as well as the distributors, it may take either significant resources or time to complete. In either case, the order will place a further financial strain on the distributors at a time where their financial position is fragile.

We recommend that a less onerous solution for the street lighting equipment inventory be sought. We are not prepared in this Report to make a comprehensive review of the options. However, we note that a possible solution would be for SIE to tender the

inventory to one or more subcontractors through open bidding, to be completed nationwide before the end of 2003. The inventory-taking could be funded by the distributors, and one-half of the cost recovered from the municipalities through a street lighting rate surcharge over a five-year period.

3.2.9 **Government should implement specific measures to reduce foreign exchange and fuel price volatility risks.**

Over the longer term (3-5 years), the Government should consider establishing a 30 day emergency petroleum reserve to be filled when world oil prices are comparatively low and near the bottom($22) of the OPEC price band ($22-28per barrel).

3.2.10 Government should remedy the incorrect billing by the distribution companies.

Incorrect billing raises the public's mistrust of the distribution companies and the integrity of the system. It is expected that under recently issued SIE Resolution 58, over-billing will be more closely monitored. This can be achieved with the proposed regulatory oversight and with fines imposed on companies that are found to over-bill (e.g. 34 day month billing cycles).

3.3 RELATED GOVERNMENT PROGRAMS

3.3.1 Anti-Fraud Unit (PAEF)

Encourage the PAEF to fulfill its objectives. PAEF should help change a culture of non-payment by sending a message of enforcement and deterring future fraud and theft. However, as this message is communicated to the public, the need for this program should diminish. Therefore, we recommend that:

- *This program have "sunset" provision* that calls for its termination after a fixed time, e.g., one year, so that the need for the program can be reevaluated.
- This entity should be *carefully monitored* to ensure that:
    - it follows appropriate legal processes to protect the civil rights of the individual,
    - it does not exceed its authority
    - it is not used in a vindictive manner to target certain individuals or institutions, and
    - it is not controlled by the distribution companies which directly benefit from the program.
- Funding for the program should go through the normal constitutional budgetary processes, and the program should *not* be funded directly through penalties that it collects.

3.3.2 Blackout Reduction Program (PRA)

The distribution of power to end-users is the lynch-pin for the financial sustainability of the entire electric power sector. For the low-income consumers who constitute the majority of the population, affordability is the central issue. But the Government must understand the precise nature of the supply affordability problem, and then target any public subsidies very sharply to the segments of the population that can least afford to pay for electricity.

Our analysis of the Blackout Reduction Program (PRA) made clear the discrepancy between the PRA's ambitious coverage goals and procedures on one hand, and its very limited time horizon on the other. We noted the strong similarities in objectives (facilitating access to electricity supply by low-income communities), and the potential for some jurisdictional overlap (rural communities), between the PRA and the PNER. We also found that some of the enforcement efforts of PAEF may ultimately impact PRA beneficiaries; this impact needs to be monitored. The PRA is a programmatic step in the right direction for the short term. We recommend that PRA, PNER and PAEF overlaps be assessed and where possible, that these efforts be better coordinated for consistent results. We further recommend:

1. *Streamline PRA Oversight.* PRA management currently reports to the Social Cabinet, CNE and SIE as well as the Council of CNE. The role of CDEEE is implementing certain technical aspects of PRA is also important. The structure for operating, managing and overseeing PRA should be reviewed to determine how it can be modified to improve and simplify these issues. An effort should be made to coordinate this program with PNER.

2. *Exclude PRA from service interruption penalties.* The SIE, equipped with a SCADA system that allows it to detect service interruptions in distribution circuits, and armed with stiff July 2001 Law penalties against unjustified interruptions (Art. 93 penalties), will be enforcing the law's provisions in 2003. We are concerned that the special circumstances of the PRA, which involves systematic service interruptions, may not be taken into account, increasing the already high level of conflict in the sector. *Any service interruptions specifically contemplated under the PRA must be excluded from interruption penalties.*

This is an important recommendation because distributors will unfairly incur substantial penalties for participating in a program endorsed by the Government. This recommendation can be implemented very rapidly through the issuance of an SIE order.

3. *Ensure Ongoing Delivery of Service to Low-Income Consumers.* Before the PRA ends, the Government should conduct a study of ability to pay for electricity and other basic public services among the population of

the Dominican Republic. This must be followed by the development of suitable policy responses, such as an integrated lifeline program to address access to electricity supply by the poor in rural, suburban, and urban areas. By the end of the calendar year 2003, actual policy initiatives should be in place to go beyond the PRA in addressing equitable access to electricity supply.

We suggest that the main entity to lead policy analysis, discussion, and design exercises should be the Social Cabinet, as it has the most extensive involvement in, and information about, poverty and service affordability in the country. But it is also necessary to involve other parts of the Government. These include: the Ministry of Finance in its role of raising and allocating Government finances; the CNE, to oversee the fit between socially-oriented policies and the country's energy policy; and Protecom as an important information source of customer uses and payment issues. The involvement of non-government/customer advocacy groups should also be included.

4. Build on Local Community participation of PRA. We found an important network of Government, community and private sector players engaged in the PRA activities. As the program approaches its end, it will be important that Government consider ways in which the program's infrastructure can be developed to assist poorer communities beyond pure subsidy. Los Muelos presents an example of local participation; it is possible that PRA could evolve into a local power co-operative under the appropriate financing and management setting

3.3.3 National Energy Efficiency and Renewable Energy Program

In light of the Government's commitment to increasing awareness and action on energy efficiency and renewable energy, consideration should be given to consolidating existing programs and funding. For detected fraud, 10 percent of penalties are used for incentives to develop renewable energy; careful consideration should be given as to how these funds might be leveraged. Government commitment to these topics needs to be prioritized and realized, for example:

- Target Government Buildings as part of how buildings can be energy efficient; track cost savings (new lighting, motion sensors, air conditioning improvements, etc.)
- Continue public information and awareness on how to save energy, i.e., encourage *rational energy use*.
- Consider establishing grants to support non-Government organizations dedicated to supporting efficiency programs at the industrial, business and/or customer level.

- Consider establishing targeted loan assistance programs for industry and business as well as residential blocks willing to refurbish equipment with efficient ones; install renewable technologies.
- Conduct a street lighting program – e.g., in Santo Domingo and/or Santiago. Identify main streets where replacement of bulbs can have tangible cost savings.

3.4 THE WHOLESALE MARKET

3.4.1 Implement the Commercial Information System

Our analysis of the development of the wholesale electricity market in the Dominican Republic pointed out that the commercial information system required by the Reglamento for the computation of transactions among all participants has not been implemented. Apparently, the obstacle is the lack of proper metering equipment at the interconnection of EGEHID's hydro facilities with the transmission network. The lack of a complete information system diminishes the transparency of the market and threatens the market's financial viability. Without complete information, the CO at present computes the transmission charges owed by CDEEE by default, since the missing information originates in a CDEEE subsidiary. As a result, CDEEE may be overpaying for its use of the transmission system. Yet CDEEE's prior obligations as default financial backer for the sector have subjected it to considerable financial distress, which means that it can hardly afford to be bearing transmission costs that may be properly allocated to other participants. In addition, the current situation may encourage inefficient use of the transmission system by participants that are not bearing their full cost of transmission as set by the July 2001 Law and Reglamento. *We therefore recommend that CDEEE finalize the installation of the necessary measurement and communications equipment for its interconnection points.*

This action will have an important effect on the efficiency and financial sustainability of the market and should be assigned a *high* priority, e.g., within the next three months or within three months of disbursement of funds by multilateral agencies. CDEEE should be in charge of implementing this recommendation, in coordination with the CO to ensure that the metering and communications equipment meets CO standards and can be certified by the CO upon installation and successful testing. Multilateral banks and donors, such as the IBRD and IDB, and national development assistance agencies, should be engaged to provide the financial resources required for implementation.

3.4.2 Develop Additional Mechanisms for Private Investment in Hydroelectric Facilities

The current one-MW exemption for private developers to develop small hydro has failed to produce new investment in hydro.[158] In view of the high volatility of world oil prices, and the high dependence on imported oil fuels for generation, *we recommend*

[158] We were given no reasons for this lack of investment, but based on other countries' experiences, it is possible that foreign lenders and investors find the transaction costs of funding small facilities too high, especially given the complexities of hydrological risk and an unsettled reform (in the DR).

that private investment in hydroelectric generation be allowed through a concession system. This can be done through several means:

- approving a new concessions law;
- using build-operate-transfer (BOT) regimes, if legally permissible; or
- privatizing or capitalizing EGEHID and amending the July 2001 Law to remove the public ownership requirement for hydro facilities.

Some of the above measures will require Congressional approval, and as such they may take a significant amount of time. In addition, the maturation of private investment in hydro facilities will take a number of years, as private investors will await the stabilization of the sector's reform and learn more about market rules and hydrological flows. Nonetheless, the reform process should begin right away, and be accorded medium-level importance. The CNE, as the Government's policy-making arm for the energy sector, should take the lead in implementing this recommendation.

3.4.3 Establish and Publicize a Procedure for Computing the Value of Water for Dispatch Purposes

At present, the absence of a public method to compute the value of water distorts price formation in the wholesale market. It also deters private investment in hydro generation, as it creates uncertainty about market revenues for hydro facilities. *For the sake of efficiency, a water valuation method must be established and made public. We recommend the use of a standard opportunity cost method, based on current and forecast demand for energy, value of lost load, reservoir capacity, expected inflows of water, and other relevant reservoir characteristics*. Current and forecast energy demand is computed by the CO as part of its operating routines. The value of lost load has already been established, on the basis of the cost of alternative sources of electrical energy for different types of consumers. CDEEE should have plant-specific data on water inflows, reservoir capacity, reservoir evaporation, and other factors affecting the availability of water for generation.

Computational steps can be publicized by sharing both the calculation software and data with participants. A commercially available software package that participants can purchase, as done in Panama, would work well (if STARNET doesn't have a water valuation capability, we suggest considering SDDP, a relatively inexpensive software used in much of Latin America).

Proper determination of water values may affect spot market prices, so we recommend that the CO begin work on the preparation of a procedure right away. This action should be accorded a high importance by the CO.

3.4.4 Modify or Periodically Review the Spot Market Price Cap

Our limited analysis of spot market price dynamics revealed limited usefulness for the spot market price cap. At present, the cap appears to help in limiting spot price

spikes at times of high oil prices. When oil prices are lower, however, the benefit of the cap in terms of dampening spot market price spikes will be lower, whereas its cost in terms of reduced incentives for the construction of peaking plant will be higher. This means that the need for the cap should be reviewed on a periodic basis, or better still, the cap should be flexible so that it only comes into place when oil prices exceed a certain market, e.g. US$25/bbl of WTI in the US Gulf Coast as measured by a respected index like Platt's. *We recommend that the spot market price cap be subject to periodic review or that it be made contingent on the level of regional crude oil prices.*

3.4.5 Increase Transparency of Charges for Ancillary Services

Lack of transparency in determining charges for ancillary services can distort market efficiency and even financial sustainability as the value of ancillary services transactions in electricity markets can at times be considerable. *We recommend that the CO enter into discussions with market participants to clarify the calculation of prices for ancillary services, and that CO procedures and public reporting be amended to correct any such problems.*

Given the potential importance of ancillary services transactions, we accord this action a high priority for the CO. Barring any limitations imposed by the need for better information systems, any problems should be corrected over the next three months. The CO should be charged with implementation, as system operator and market clearing organization.

3.4.6 Follow the July 2001 Law's Mandate in Lowering the Market Access Threshold, and Rescind Order SIE-15-2001

In our opinion, there is little ground to believe that migration of large users to the wholesale market would harm distributors, as they are well protected contractually and the soon-to-be-implemented technical tariff will eliminate cross-subsidies in the distribution rates. It is particularly important to recall that the PPAs assigned to the distributors allow the latter to lower their capacity and energy takes as large users migrate to the wholesale market. We thus find no justification to delay application of the July 2001 Law's market access provisions by direct or indirect means such as Order SIE-15-2001. *We recommend that the SIE rescind Order SIE-15-2001 and apply the July 2001 Law's provisions regarding the reduction in the market access threshold.*

Although the threshold reduction will not likely have an immediate impact on market competition and is thus of medium importance only, it can be implemented right away through an SIE order.

3.4.7 Increase SIE Vigilance About Vertical Integration

We have noted that, if the July 2001 Law's provisions regarding abuses of market power are to have any real impact, the SIE must enforce them. As a recommendation for

routine action by the SIE, we propose *aggressive enforcement of the following July 2001 Law provisions:*

- exclude affiliate contracts from the calculation of charges for energy and capacity that are passed through to regulated consumers in the rates approved by the SIE;
- competitive auctions for new contracts;
- 40 percent spot sales requirement for new generation affiliates; and
- 20 percent spot market purchase requirement for distributors.

We attach a very high importance to this recommendation. Although we have no specific term for the implementing this recommendation, it should be followed closely whenever distributors need new contracts for purchases of capacity and energy.

3.4.8 Adjust Transmission Tolls and Develop Explicit Mechanisms for Private Investment in Transmission

We have expressed strong concern about the financial viability of ETED going forward. Under the threat of litigation, the SIE has been unable to increase transmission tolls. Transmission charges have apparently been given away in PPA renegotiations, and the July 2001 Law prohibits private involvement in transmission, so there is no alternative to ETED. If ETED's revenues are insufficient to cover investment in additional transmission capacity, or worse yet, to cover even its operation and maintenance expense, transmission bottlenecks may arise in the near future, imposing additional costs on to the sector.

For these reasons, *SIE must set tolls at an appropriate level, and private involvement in transmission must be allowed*. As in the case of hydroelectric facilities, several choices exist for private investment: the approval of a new concessions law; use of build-operate-transfer (BOT) regimes if legally permissible; or even the full privatization or capitalization of ETED. In any case, transmission planning cannot be undertaken by transmission service providers alone; participation of generators, CO, distributors, and users is needed to ensure that their interests are taken into account to the highest possible degree. For this reason, *we recommend that decisions about expanding the transmission grid be transferred from ETED to CO, which is set up to evaluate and discuss transmission needs for the sector*.

Transmission bottlenecks can have a major financial impact on the sector by forcing the dispatch of higher-cost plants in congested areas. Over a longer term, bottlenecks can also distort generation siting decisions. Similarly, one company identified technical problems at the city-gate as a significant transmission problem. The need to set tolls at adequate levels, to attract sufficient capital, and to plan carefully, make this a very important recommendation. On the other hand, it involves several elements with different time horizons.

In the shorter term—next three months—SIE should initiate and finalize a public proceeding on establishing a transmission toll rebalancing scheme to bring tolls up to a sustainable level (the scheme itself can unfold over a longer transitional period). Over the same term, the Reglamento should be amended to transfer transmission decisions to the CO, and different alternatives for private sector involvement should be considered.

A period of another three months should be used to develop the CO transmission planning procedures. We note that CNE is in the process of drafting a planning report that may be useful to the CO. Meanwhile, a policy for private investment in transmission can be considered by Congress. By the end of 2003, the target should be to have more adequate transmission tolls, transmission planning responsibility under the CO, and a scheme for greater private investment in transmission.

3.4.9 Resolve the Cogentrix Dispute

We understand that the Cogentrix dispute poses delicate legal and financial issues for both parties. Without commenting on those issues, we note the importance that this plant has in minimizing generation shortfalls. The Government should consider, as part of its options, using multilateral loans to assign the PPA to the distributors or to turn it into a merchant plant. We also recommend that the Government continue to study the option of conversion to natural gas, as natural gas will help diversify the country's energy matrix and possibly lower the cost of production of the Cogentrix plant, and hence spot market prices.

In view of the urgency of eliminating blackouts, resolving the Cogentrix dispute is of high importance.

3.4.10 Delay the Haina-Itabo Merger Until a Thorough Study of Competitive Implications is Completed

It appears that the merger of Haina and Itabo will produce a high level of concentration in a small market. The risk of adverse impact on market competition is high, especially since SIE is still in the process of growing into a full-fledged independent regulator and has limited capabilities at this time to monitor monopolistic practices.

We recommend that the SIE initiate a proceeding to study the proposed merger, possibly hiring internationally recognized experts on antitrust issues to assist in evaluating the impact of the Haina-Itabo merger on the wholesale market. The proceeding should be conducted under SIE's public processes so that the public may participate and express their views. SIE may wish to hold public hearings on this matter, including adversarial hearings with witnesses and cross-examination as a means of establishing a record for its findings. After SIE has conducted a thorough review of the proposed merger, it should issue its findings of fact and law, and issue an order that either, (i) rejects the merger, (ii) approves the merger, or (iii) approves the merger with conditions.

3.4.11 Establish Clear and Aggressive Targets for Reduction of Technical Losses at Transmission and Distribution Levels

Even though overall losses have declined significantly since the capitalization took place, they are still very high by international standards, and financial sustainability will not occur unless technical losses are substantially reduced. Unlike non-technical losses, with must be addressed within broader law enforcement, cultural, and poverty-related themes, technical losses can and must be addressed by ETED and the distributors through investment programs. *We recommend that loss reduction targets be established, either by the CO as a condition of market participation, or by SIE*. Alternatively, if the management contracts are renegotiated, standards for the distribution companies can be addressed at that time.

ATTACHMENT I

Training Attachment

Examples of training that could be conducted in the next six months:

(a) All Institutions

- Market definitions – NOTE: the law itself identifies private and public "institutions" as part of the electric sub-sector[159]; it is important that greater distinction be given to the types of institutions – whether regulatory, private company or non-Government, etc.
- Public Information, Awareness and Participation– including training of media, non-government organizations, government bodies (SIE, CNE, etc.), community groups.
- Basic Market Operation of Electricity Sector
- Roles and Responsibilities

(b) CNE

- Policy making – time lines; prioritizing reform actions
- Reform of electricity markets (comparative world experience)
- Roles and responsibilities

(c) SIE

- Overall role in the emerging market
- Docketing system
- Internal management of Regulatory Body (job descriptions)
- Public hearings
- Regulatory process
- Development of tariffs
- Legal and regulatory drafting
- Reform of electricity markets (comparative world experience)
- Investigative and Compliance issues (legal, technical, regulatory)
- Enforcement – application of penalties, fines
- How to identify monopolistic practices in the market
- Preparation of data and information on procedures to determine rates, historic and expected values
- Public Affairs

(1) Distribution Companies

- *Customer Service* – at this time, Government assistance or at least some type of collaborative effort to build company expertise in customer service would benefit

[159] Title III, July 2001 Law.

the company, the market and ultimately help the Government to achieve reforms. This could become a condition of company contracts where performance parameters are set; some training could be provided by Government or via a donor program.

- *Community and Social Action* – The culture often associated with companies in market settings engaging in local community activities has not sufficiently evolved. AES does engage in community activities; it has built a clinic and school and works with local leaders in areas of service; other companies do not. Government should consider the development of some type of community linkages awareness program to involve companies as a natural and important part of community not outside.

(2) Consumer Groups/Church Groups – now is an optimal time to leverage the networks and power of community based groups to support or impede sector reform. Capacity building and ongoing information exchanges are critical to assuring that all stakeholders are effective. Government should immediately explore existing areas where capacity building efforts of donors and other Government ministries can be leveraged. (e.g., USAID assistance to NGOs, etc.)

(3) Pact for Stability and Economic Development –as this Pact develops, it is possible that some training may be of use.

ATTACHMENT II

Comisión Nacional de Energía

República Dominicana

March 6th, 2003

RUDDY & MUIR, LLP
1717 K Street, NW Suite 600
Washington, AD 20036

Attention: Mr. Thomas P. Gross
Attorney at Law

Dear Mr. Gross:

1. Which is the participation of the President's office in the decision's making of the sector?
2. The payment of the energy of the public sector is discounted monthly by the distributors of the energy that CDEEE delivers to the Wholesale Market.
3. At the present time there is not a narrow relationship of work among the Superintendence of Electricity (SIE) and the National Energy Commission (CNE); as well as we have never made observations or criticized their actions. In some occasions, we have sent them our opinion about specific cases, with the purpose to offer them a different vision.
4. The poor institutionalism among the institutions, specifically, Superintendence of Electricity (SIE) and National Energy Commission (CNE), is due to at the short time that they have been created and to the implementation of the new regulator frame of the market.
5. You have mentioned in your report that information that are given to the CNE by the Agents are not managed with the confidentiality that they require. Usually, we don't receive information from Agents; the same ones are received through the SIE. The information that has arrived to us directly from the Agents, have been managed very zealously by the CNE.
6. You indicate that the CDEEE is treated in a different way, being favored by the Resolutions emitted by the SIE or the Coordinating Body (OC). We don't have any information that endorses that asseveration; however, we have many communications from the CDEEE, claiming mistreatment.
7. The CNE, at the moment is developing the bases necessary to have an appropriate and active participation in the electric market. Actually, CNE is involved in the conclusion of different projects. The National Energy Information System, the model of the electric demand and the indicative planning of the transmission and generation of the System.
8. The Decree that created the Presidency Commission for the sustainability of the electric sector was based for a specific goal; this Commission will disappear as soon as these problems have a solution.
9. The President of the Board of CNE is the Ministry of Industry and Commerce and not the Ministry of Finances.
10. The PRA program is technical and administratively directed for the Social Cabinet. So much the CDEEE, CNE and the SIE offer them the logistical support and the "know how" that they need to be managed in the sector.
11. The Resolution 15 had validity up to December 31, 2002.

We respect your opinion about CDEEE that it's still plays as regulator in the market; we are conscious that CDEEE operates as a simple agent in the market.

Best Regards,
George A. Reinoso
Executive Director

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